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THE

NEW-YORK GARDENER,

OR,

TWELVE LETTERS,

FROM A FARMER TO HIS SON,

IN WHICH HE DESCRIBES THE METHOD OF LAYING
OUT AND MANAGING THE

Kitchen-Garden.

BY P. AGRICOLA.

ALBANY:
PUBLISHED BY DANIEL STEELE & SON.
No. 437 S. Market-Street.

Packard & Van Benthuysen, Printers.
1824.

Harvard College Library
Jul. 11 1916
Gift of
Prof. John S. Pray.

Agr 111.10.

TO THE

YOUNG AND INDUSTRIOUS

FARMERS,

OF THE

State of New-York,

THE FOLLOWING PAGES ARE MOST

RESPECTFULLY INSCRIBED,

BY THEIR SINCERE FRIEND,

THE AUTHOR.

PREFACE.

HORTICULTURE is a progressive art. Every attentive practitioner will find that he becomes annually more and better informed upon the subject.

But the great impediment to the progress of Gardening is to be found in the different climates of the earth, and in the variety of soils and situations: For that practice which would be proper in one place, might be very improper in another. Besides, the habits and customs of society frequently render important changes in this, and all other arts, quite indispensable.

Every considerable district of country, therefore, requires a treatise upon the art of growing culinary vegetables peculiar to itself.

To encourage and instruct the young Agriculturist, in the state of New-York, and country adjacent, in the best manner of conducting their Kitchen-Garden, is the intent of the following work. And in order that it might contain as much useful matter as possible, the writings of many English, and several American Gardeners, have been examined, and from them every thing which experience would warrant, as suitable and proper for us, have been copiously extracted.

And that the young inquirer may have an easy access to the particular business of every season, there is a Letter for every month in the year, which he ought to consider as directly addressed to himself; and if he will pay suitable attention to the lessons which they contain, but for a few years, he will most assuredly become not only a complete Gardener, but an improved and successful farmer; for such is the affinity between the arts, that every improvement in one, necessarily extends its benefits to the other.

In this state, almost all the labour of Gardening is performed in the months of May, June, and July; but in each of the other months, there is something to be done, many things to be prepared, and much to be learned.

The last Letter (December) contains some explanatisuo and additional instructions, and may be considered as an Appendix to the preceding numbers.

To complete the whole, there is annexed a catalogue of all the plants usually cultivated in our Gardens, arranged in alphabetical order, with their botanic names set directly opposite.

From the great pains taken to render every part of this work replete with practical information, it is confidently hoped that this little volume will find a place in every farmer's library.

JANUARY.

My Dear Son,

There is no period of life in which a father feels greater interest in the pursuits and employment of his favourite child, than when he is first entering into the practical exercises of his occupation.

From your early infancy I had no greater ambition than to see you a skilful and successful farmer; and to that point all your education has been directed. The books on natural history which you have read, and the chemical lectures and experiments which you have attended, have all been meant to form your mind for this important employment, and to facilitate your success as a practical husbandman.

You are now to have the management of a farm, the soil of which is good, but spontaneously it will produce nothing, except "thorns and thistles," as its late occupant can testify. It is now every thing but what a good farm ought to be, and materially different from what I hope to see it a few years hence, under your superintendance

Here you will have need of all your skill, and room for all your industry. Satisfied that trifling obstacles would not impede your progress, I did not hesitate to make the purchase, although many of my friends said the farm was worn out, and worth but little. I cannot, however, think it possible that twenty or thirty years of the worst management can ruin a soil naturally good. I know if you maintain a family upon this farm, you must pursue a course directly opposite to that of its late owner. You must not suffer the dung to accumulate in the barn yard, so as to be under the necessity of making a *bea*, (as he call'd it,) for its removal. Those heaps of stones piled about the fields, must be removed, and made into fences. Those naked fields, over which his meagre flock has ranged for years, must alternately be deeply ploughed and sowed to clover, for it is principally from this grass and the plough, that you are to expect the renovation of the soil. Upon this subject many good practical essays have already been written, which from time to time I will lay before you. There is one thing, however, upon which I know of no book that can give you the necessary instruction. I mean that of the FARMER'S KITCHEN-GARDEN.

The English abound in celebrated writers upon horticulture: but none of them are calculated for our meridian, or suited to our country, and to our wants Their seasons are so widely different from ours, that none but an experienced gardener can read their works with profit. You might almost as well consult Virgil upon the best method of raising bees, as Abercrombie upon gardening. To remedy this defect, Mr. M'Mahan, of Philadelphia, has published a large work, and has attempted to render it suitable to every part of the United States; put here he fails, and must not be followed by our farmers. Besides, his directions are generally intended for opulent gentlemen, rather than farmers, and on that account, in many particulars, are not suited to our means, or our wants.

His book, notwithstanding, has much merit; and when you have had more experience, would recommend it to your attention. I do not expect that you will immediately be a proficient in this art. Time and observatian are indispensable, The former may be abridged by instruction, and the benefits of a good garden sooner realized.

With proper management the garden will be a bank from which you may draw every day in the year, for the use of your family; and that excessive use of animal food, so injurious to children, and so unnecessary for adults, may be avoided. Besides, how much more economical and pleasant is it, to have an abundance of good vegetables always upon the table.

I sincerely hope you intend not to sell your farm, but, with the blessing of God, will make it your permanent residence. Frequent moving, so common with young farmers in this country, is fatal to their prosperity, and fully accounts for the ignorance and hardship of their advanced age.

A good garden is not the product of a single year. Time as well as skill is requisite.

In fixing the site of your garden, you need not be over solicitous about the quality of the soil. With suitable means and proper manure cultivation, almost every soil may be rendered productive, and without them none will long continue so.

I would not be understood to say, that every soil and situation is equally well suited to the production of garden vegetables. If you was a tenant for years, I would certainly advise, that you select a spot of the richest and deepest soil upon your farm, that you might immediately, and at a small expense, supply the wants of the family.

It is not necessary that the garden should adjoin the dwelling house, but for many reasons, it should not be far from it. It is seldom in the power of small farmers to select a place for the garden, free from any fault. A situation moderately low, at the same time not liable to be overflowed, is on many accounts to be preferred. Here your tender plants will be less exposed to the cold vernal winds, and the soil will be more retentive of moisture, in the heat and drought of summer,—and if it should gently slope, and face to the south, so much the better. It will be fit to work earlier in the season, and your crops will come sooner to perfection.

However, in this respect, you are limited to a small place, and must content yourself with such as nature has furnished. If the soil is sufficiently deep, you may easily remedy every other defect; and even this can be amended by art. If your soil is sandy, improve it with loam, and rotten dung. If clayey, and cold, and damp, mix plentifully of stable manure and light sandy soils. For a clay soil, sand is the best addition you can make ; this, when well wrought, will form a light loam, the best soil for a garden. In a word, that kind of ground which never fails to produce good crops of grain and grass, with small labour, will yield abundantly of garden vegetables.

The next point for consideration is, the size or dimension of your garden ; and here let me caution you against imitating any of your neighbours. The farmers of this state have generally erred greatly in this particular. Few of them occupy for this purpose more than a fourth of an acre, and many of them less ; and here they have their fruit, as well as kitchen-garden. If some of them exclude the apple tree from this favoured spot, it is only to make room for the pear, the cherry, and the plumb, with all their numerous progeny. Nothing that will ever become a tree should have a place in the kitchen garden. Their shade is injurious, and the strong absorption of their roots, starve the small plants in their vicinity ;— besides, they impede the use of the plough and spade, and form a nursery for weeds and insects.

Although your garden should give room to none of these occupants, it should contain at least an acre. In a field of this dimension, you may use the plough, the best of all instruments for cultivating the earth ; not certainly to the total exclusion of the spade, but its use, where the plough can work, is very much diminished. In a garden of this size, you can observe a proper rotation of crops, a practice as essentially necessary in gardening as in farming. This is an important fact, to which my experience can bear ample testimony, and I should be sorry if it should ever escape your memory.

It is true, that a plenty of manure and deep cultivation, will cause most vegetables to flourish a number of years in succession in the same place ; but the time will come, when neither manure nor labour will answer the purpose. To prevent this deterioration of the soil, the only means known at present, a change of crops ; and this should be done at least every four or five years, not simply by changing the place of your annuals, that whole class must give place to biennials, or what is better, perennials, and the best of this class is clover. I know many will disapprove of this advice, and exclaim, do you recommend clover as a plant to be nursed in the garden! Certainly I do. Whoever shall try it upon land that has been long cultivated as a garden, will find nothing equal to this grass to improve and renovate the soil.

If your garden contains an acre, one fourth of this in succession may constantly be in clover, and this you may denominate your flower garden. The herbage of this plant, when it grows luxuriously, is superior in beauty to the carnation or hyacinth, and its flowers are as variegated and as fragant as the rose. Other flowers make a scanty return for the great care bestowed upon their cultivation; but here we have riches, fragrance, and beauty, united. And if further ornament is required, you may have the holyhawk and sunflower, standing in majestic beauty around the border of this great flower-bed.

That kind of gardening which I would recommend, is truly nothing more than agriculture in miniature. Agriculture is a living science, constantly improving, and in no place can you learn this science with so much facility, or at so small expense, as in your garden. It was here our first parents were placed, by divine wisdom, that they might learn all that was necessary for man to know. Nor is there any employment better calculated to impress the mind with vital piety, and teach us the cardinal virtues of humility and patience. For it is here not only, "*in the cool of the day*," that the voice of God may be heard, and his footsteps traced, but in the warmth of noon his "*handy works*" appear, surrounded by love and munificence. Here all the conflicting theories relative to the growth and the nutrition of plants, the nature and use of manures, and the various kind of tillage, may easily be brought to the test of experiment. Here all foreign or new plants or seeds should be first propagated, and their qualities ascertained; and here you may try, without expense, the various kinds of Indian corn, beans, potatoes, &c. and select the best of their species for field cultivation, and it is only in the distant sections of a large garden, that you can raise the several kinds of cucumbers, melons, squashes, &c. without admixture, or ripen the numerous varieties of cabbage and turnip seed, without injury from each othor. And here let me advise you to furnish yourself with a blank book, neatly bound, for the purpose of making extracts from such publications as you may think deserving of notice. Here make memoranda of all your practice, either upon the farm or garden; note the quality and kind of seed which you may use. Here give names or numbers to all your fields, and note the quality of the soil; and every autumn give a faithful history of their produce, with such remarks as experience may suggest. Let this book be divided into separate apartments, to each of which prefix an appropriate title, —as tillage, manures, harvesting, &c. To this you may resort as occasion may require. Here you will learn what your several fields have produced, and what has been the result of the rotation of crops, which you have raised. Without some record of this kind, you may grow old without growing wise, and many material circumstances must escape your memory and be lost. It is from wanting the facts, which this book might contain, that you see farmers so tardy in improvement, so positive in error, and at three score, so little advanced in the knowledge of their profession. You may make this book a valuable legacy to your children. It may teach them our present mode of husbandry; and they may derive benefit not only from your success, but from your failure. Improvements will be perpetuated.

Under the head of "Insects," I wish you to give, with the year, not only the name, but a minute description of all such insects as you may find troublesome in the garden or fields; note the time of their appearance, the time of their greatest depredation, and when they cease to be injurious. Relate with accuracy whatever you may have tried to prevent their ravages, or cause their destruction. This class of insects are extremely numerous, and composed of various tribes; and it is quite proper and necessary that you should understand their history. This you must study in the garden; this you must learn, not from books, but from careful observation, and practical acquaintance. With the knowledge thus obtained, you will be able to secure your garden, if not your fields, from any considerable loss. As the season advances, and those hostile armies begin to appear, you shall hear from me further upon that subject. The frost of our winters is usually severe, and where the ground has been laid up in ridges, the parent seed of those animals are destroyed. But independent of this, our winters have their use, and long as they are, many of us are not prepared for the spring when it arrives. The good husbandman is known and distinguished by his winter preparations for summer. The importance of this truth makes me extremely desirous to impress it indelibly upon your mind, that when the spring of your days shall be over, and your summer is gone and past, you may spend the winter of life in quietude and cheerful reflection. *I am, &c.*

P. AGRICOLA.

FEBRUARY.

My Dear Son,

At this inclement season, when the ground is covered with snow, and the vegetable world in "*icy fetters bound*," there is certainly no work to be done *in* your garden; but if you expect it to supply your table with sauce for the coming year, there is much to be done *out* of it. It is time to determine in what manner it is to be inclosed, and of what materials. It is not necessary here, as in many countries, that the walls should be seven or eight feet high, —here neither the north or south wind will be your enemy; nor have you to fence against the arts of thieves, or the depredations of robbers. Here your choicest fruits may ripen, secure from fraud or violence.— Here, unprotected by hot-beds or glasses, the cucumber and melon may grow and bask in the sun. Surrounded by freemen, who know and respect the rights of each other, you have no use for the mastiff by night or by day. Let your inclosures be substantial, and you may sleep in quiet, for neither man or beast will trespass upon you. If you intend your fence to be made of wood, now is the time to carry your logs to the mill, and to bring the necessary posts and plank. Remember the farmer's profits are made up of trifling items, and unless you *economise* in your improvements, they will terminate in embarrassments and real inconveniences.—"Count the cost," say the oracles of divine wisdom, and having faithfully done that, let industry and perseverance finish the work.

The prudent husbandman will not permit the garden to absorb all the profits of the farm, but will so manage both, that each shall contribute, and mutually lend assistance.—The interest of these twin sisters can never be separated ; they should always have a previous understanding, and harmoniously play into each others hand.

This will lead me to some remarks upon the subject of manures, an article of the greatest importance to both farm and garden, and without which neither can be long cultivated with pleasure or profit.

I know some English farmers contend, that by tillage alone, judiciously applied, and by a proper rotation of crops, the application of manures may be dispensed with. Tull, and his disciples, maintain, that nature does not require any pause or rest ; for, say they, "the earth was evidently designed to yield a regular and uninterrupted produce, and as the productive qualities of the earth never cease, if grain is not sown, weeds will grow. It is therefore our business to extirpate the unprofitable plants, and introduce those that are beneficial." The practical husbandman will tell you that by skilful tillage alone, good crops may be raised upon good land, but with the judicious use of manures, good crops can be raised upon land the most sterile. But then judgment, improved by experience, is necessary in the application; for in no soil or situation should a greater quantity be given at one time than is sufficient to fructify the ground, or render it capable of producing good crops, until the time arrives when a fresh dose can be administered. The error of many farmers consists in giving too great a quantity at once, thereby depriving the ground of its regular nourishment;—in other words, the soil riots in the midst of plenty for two or three years, and fasts and starves for several succeeding ones. Hence the generality of fields or gardens are either too rich, or too poor; either saturated with manure, or completely barren from the want of it. Whereas, had supplies been furnished with more economy, and been distributed with judgment, a more uniform produce would have been the consequence.

At present it is a well established fact, that when land has been brought into a good state, a small quantity of manure, annually applied, is best upon farm or garden. The ground is then regularly fed, but never surfeited, or parched with profusion. Hence the crops, constituting a regular rotation, are more uniformly good than can be obtained in any other way. Again, if a quantity of manure is bestowed sufficient to impregnate the soil, all above that deserves to be considered as profusely thrown away, at least the benefit of it is in a great measure sacrificed. Manure, upon many soils, is soon deprived of its enriching powers; upon all, its strength is dissipated and carried off by heat, wind and rain. Therefore, the oftener it is repeated, the greater will be the benefit derived from the application.

These remarks are principally intended for ordinary farmers, who do not reside in the vicinity of large towns, but who must act upon their own supplies, who possess but a limited portion of manure, and whose care should be directed to manage that portion in such a way as to derive from it the greatest possible advantage.

Upon your garden you will certainly use more manure, in proportion to the quantity of land, than upon any other part of the farm. Constant tillage, and the exhausting nature of most of the crops, require it. And here, as upon the farm, you should pay the utmost attention to the spreading and distribution of this valuable substance, for a much less quantity will produce the desired fertility, when all the clods and lumps are torn and shaken asunder, and the whole divided into the minutest parts. Then every part of the soil has an equal supply, and the parching heat and droughts of our summers will produce less injurious effects.

Although manure has, very properly, been characterized as the magic wand of the farmer, let me caution you, not to expect that it will in any case do away the necessity of careful tillage. Manure alone may produce an abundant crop of weeds; but if you would render it useful in your field or garden, it must be artfully mixed with the soil, and every interloper that would take away any part of it, must seasonably be destroyed.—However warm or dry the weather, be not afraid to use the hoe. "Ill weeds grow apace;" and while you may be waiting for rain, they will overtop your plants, and starve them to death; whereas frequently stirring the soil with the hoe, makes it more retentive of moisture, and gives to the favourite plants all the advantage of the manure, and the undivided use of the water and dew.

It is not thirty years since the farmers of this country considered the dung of their stables an offensive nuisance, and at this season of the year, rode it out upon the river, that it might be effectually carried away with the ice. That abundance of straw, which their crops afforded, was usually heaped at a proper distance from their buildings, and consumed by fire ; then our river annually overflowed, and fertilized its banks ; and the upland, enriched with the foliage of a thousand years, would bear constant ploughing, and yield luxuriant crops. But contrary to our expectation, we have outlived those prolific days, and must now change our practice, or be content with poverty. If you expect your fields or your garden to be productive, this is the season to make and bring home as much of this valuable substance as possible ; when the winter is past, other things will claim your attention, nor can you procure this article when it may be needed for use. You must now lay it up, or lament the want of it when too late. This is also the season of the year to improve your *Mind* in the science of your profession. Let that be well manured and enriched by reading, and conversation with practical men.

On the subject of manures, you may profitably read many of the English writers.— They contain much information, and *here* will not lead you astray. Here their great experience entitles them to attention, and you may look up to them as the best instructors. They will tell you that manure is of the first importance to the farmer ; and that according to the quantity which he collects, and judgment which guides the appropriation, his success will assuredly be regulated. Their directions for the collection, preparation, and application of this substance, claim particular notice. They enjoin that great care be taken in cutting the crops, so that the greatest possible quantity of the raw material may be procured; that you never sell any hay or straw, unless the price is unusually high; that you keep no more beasts upon your premises than you can feed well;—that during the winter months, you lay up your dung in a regular and careful way; and during the exhausting winds of the spring, and parching heat of summer, it should not be suffered to remain in its rough state, exposed to the weather; but let all be heaped, if not housed, until wanted for use, and when applied to the soil, let it be immediately covered with the spade or plough.

If you have found from actual experiment, that gypsum or plaster is useful upon your land, now is the time to make the purchase, bring it home, have it ground and ready for use. If you have not given it a thorough trial, neglect it no longer. It is a very cheap and valuable manure upon some lands, and quite useless and inert upon others. But it is not so with barn or vegetable manure; this is beneficial to all lands which have been long under cultivation, and ought every season to claim particular attention. Although

I mention the collection and preservation of manure, as an important item in the business of this month, you will be quite deficient, as a good farmer, if you do not every month in the year, lay up more or less.—You may sometimes, for a small price, purchase your neighbour's straw, or the dung from his stables. Let no such offers be neglected, for be assured, this is a ticket in the agricultural lottery, where there are no blanks.

In the application of the various substances which are called manures, take care to use them as reason and experience may direct. All dungs are designed to repair the decays of exhausted or worn out lands, or to cure the defects of others. These defects are as various as the dungs are which should be used for their amendment. Some lands are too heavy, moist and cold, here use the dung of horses, sheep and poultry; others again are too light and dry, and may be greatly improved by the addition of the dung of neat cattle, hogs, &c.

Always bear in mind that there are too peculiar properties in animal dung, or stable manure. The one is, to produce a sensible degree of heat. This property is found most abundantly in the dung of horses, newly made, and a little moist; the other property of dung is, to fatten and fertilize the earth.

Some recommend the dung of pigeons and

other fowls, as the best manure for asparagus, peppers, &c. and 'tis certain, this dung, being hot and full of salts, tends very much to promote vegetation, and is abundantly quicker in its operation than the dung of animals which feed on herbs. But there is no manure equal to the cleansing of the streets of large towns, for all stubborn clayey soils, the parts of which will be better separated, and in a much less time, with this manure, than any other compost whatever; and where it can be obtained, is extremely well worth procuring either for farm or garden.

Take care that your stable manure does not suffer by too great fermentation, to which that from your horse stable is most liable. You will perceive its approach by the great heat which the heap assumes, and by the ash-coloured appearance of its centre. To cure this disorder, you must lay open the heap without delay to the very bottom, or the quality of your manure will be much depreciated. The fertilizing qualities of manure are destroyed by this process, as effectually as by drenching rains. To prevent any danger from this fire-fanging, as it is called, let dry straw be mixed with the dung as it is thrown from the stable; or, what is still better, lay up in the fall a few loads of dry alluvial earth, or turf from the highways, and every week, during the winter, while your manure is making and collecting, add two or three bushels to the heap. This will never fail to prevent the accident, and at the same time increase the quantity, and improve the quality, of your manure.

Now look over your garden seeds, and see that you have those that are good, and without delay purchase all that may be wanting. As a general rule, you ought to raise your own seed, but as you are now beginning, you must buy for this year. And here let me caution against impositions which are common in the sale of garden seeds. In order to avoid them all, I would advise you to call upon the Shakers, and obtain directly from them such as you may need; for they have very justly acquired the character of skilful and honest seedsmen, and you should not incur the risk of disappointment and loss by purchasing elsewhere. Take care also that you are not deficient in quantity. Let your seed be ever so good, you ought to sow at least double what you would wish to have grow. Insects, and various other causes, may destroy many of your small and tender plants. Sow liberally, if you intend to reap abundantly,—for it will be found much easier to thin out the surplus, than to supply any deficiency.

Now examine your tools. Have you all that may be wanted, and are they in good repair. Shall we call over the list, and see if they are in their proper places, secure from the weather. First, the most important in ment in the farmer's garden, is the plo Of late we have had various patterns of instrument presented to our notice, but quite certain, none will answer better ir garden than the short iron plough, inve by Jethro Wood. Simplicity and durab are here united ; nor will any other plc raise and pulverize the soil more effectu

The spade is the next instrument. may be thin and sharp, and if used onl the garden, will last many years. The is an indispensable tool, and of this you want three varieties. The large, the sn and the narrow hoe ; all of which sh be sharp, and kept exclusively for the den. Two iron rakes, a coarse and a one, will often be wanted, together wi transplanter or hollow trowel, and a st line or cord, at least forty feet in len With these few and simple tools, all the w of a garden may be done, and well do and if to these you add the wheel-bar you have every thing necessary for a den.

I am, &c.

P. AGRICOL

MARCH.

MY DEAR SON,

WHENEVER I find any thing better calculated for your instruction than I can write myself, I shall not fail to lay it before you. Of this kind is the following extract from the Plough Boy, No. 38, vol. 2.

"As the spring will now soon open, and call us to commence making provision for another winter, it may not be amiss to invite the attention of the plough boys especially, to a subject of importance, both in a useful and economical sense. I mean the cultivation of a kitchen-garden. There is no need of inviting the attention of such as cultivate a garden, either for ornament or profit; their pleasure or their gain will not permit them to be negligent. But the great mass of citizens do certainly deprive themselves of much convenience, saving, and perhaps health, by not possessing a liberal supply of vegetables from their own gardens. To a farmer or mechanic in the country, the expense of cultivation is trifling; the convenience and saving, especially during the long winters of our climate, are great.

"Many persons, sensible of the utility, are often dissuaded from constant attempts in cultivating a kitchen-garden, because they have experienced some failures in particular plants. But there will never be a failure of vegetables enough for a family's use, if the following requisites be well regarded:—Richness of soil; due care in the selection of seeds; proper cultivation; and a sufficient variety of vegetables, that if one kind fails, another may be a substitute.

"It is a general complaint among persons who pay only little attention to their garden, that the seed often fail. This usually happens because due care is not taken in discriminating between ripe and unripe seed; between blighted and sound seed. Or in some cases it happens by using old seed instead of fresh. Onion seed is often useless after the first year; and parsnip seed is so delicate that I believe we can place no confidence in its vegetating principle after having been kept a year. Having generally purchased these more delicate seeds annually, of professed seedsmen, I have rarely failed in any planting. The expense is indeed something, but it is over-balanced by the certainty of a growth.

"But our gardens do not generally present variety enough to be profitable and convenient to the owner, throughout the whole year, even if all the planting succeeds. There is frequently no provision for the winter, and many a long month, when the vegetable kingdom is locked in frost, is passed with no variety on our tables, to excite the languid appetite, or satisfy that which is pleased with rotation. But surely it is as easy to store our cellars with the beet, the carrot, the onion, the parsnip, and vegetable oyster, as with the dull monotony of the potatoe; and however nutritious the potatoe may be, still its utility cannot be hostile to the claims of other productions of the garden.

"We do not invite the plough boy from the utility of his farm, to the *pleasures* of a garden; we do not wish him to sacrifice his grain fields to the culture of a tulip bed; but we wish to call his attention to the utility, convenience, and economy that can be found in the cultivation of a substantial kitchen-garden, from which his healthful family can draw many of those really innocent luxuries, which a bountiful providence has, with so lavish a hand, spread around him."

These remarks well deserve your attention. Let them be impressed upon the tablets of your memory, and form your horticultural text-book.

Before the end of this month, your inclosures should be completed. Have you brought home the materials? If your fence is to be made of wood, now make ready the posts; they should be large, if you wish them to stand firm and durable. They must be seven feet long, and placed two feet into the earth. If they are set only ten feet apart, the girts or rails may be an inch and a half thick, and if they are well framed into the posts, will make a strong inclosure. The lowermost girt must be placed sixteen inches from the surface of the ground, and a bank should be thrown up upon each side, to fill the space. Or, if you have stone upon the farm, make a wall three feet high; let the foundation be laid six inches below the surface; and in the centre of this wall put small posts, into which the girts must be framed. The posts for a fence of this sort, should be five and a half feet long, and sawed an inch and a half thick, six inches wide at the foot, and four at the top. About a foot and a half from the bottom, make a two inch hole, which should be filled with a piece of good timber, two feet long. This will greatly strengthen the position of the posts, without weakening the wall. Above the wall, two girts, the one eight, and the other six inches wide, will be amply sufficient. Take care that your wall is laid with art, and that the timber is well fitted to it, and I will insure safety to whatever you may plant in the garden. Or, if you fear depredation from hens, let the girts be perforated with inch holes, and place in them turned pickets, two feet long.

You will need two gates, one of ten feet wide, to admit the cart, and another of three feet, for daily use. This should turn with ease, and must be effectually secured by a weight, or you will be liable to much vexation and loss, from carelessness.

Your fence finished, select a proper place for the small kind of fruit-shrubs, as gooseberries, currants, and raspberries; for although you admit no trees within this inclosure, these useful shrubs must have a place. They should not be planted around the fences, nor through the centre of the garden, as is too commonly the practice, but in a continued plantation, that they may have suitable attention, and yet not obstruct the plough.

Gooseberries require a deep and rich soil. The ground between the rows must be well manured, and kept free from weeds, and you should be careful to plant none but those that are of a good kind.

The best mode of propagating gooseberries, is by cuttings or layers. For cuttings, take shoots of the last year's growth, from shrubs that are known to bear choice fruit. Let them be at least ten inches long; cut off all the buds, except three or four at the tops, and insert the stem six or eight inches into the earth; tread the ground firmly around, and keep them free from weeds. When they have grown here a year or two, they should be removed to the plantation as soon as the frost is out of the ground in the spring, or in the autumn, which is, particularly for the gooseberry, the best season.

Currants may be propagated in the same way. They are, however, more hardy, and do not require so rich a soil. They should be placed in rows, six or eight feet apart, and kept free from weeds. Between these rows, you may raise a crop of dwarf or bush beans, (taking care that there are no runners, or vines among them) without the least injury to the shrub, for several years.

There is great choice in currants, as well as in other fruit; select only the large red and white currant, for no art will change the original nature of the fruit, although by skilful cultivation, the quality may be improved.

The gooseberry and the currant both claim the farmer's attention, and are much wanted in every family. They furnish a cheap and early sauce, and the latter a wine equal to the best Lisbon or Teneriffe.

As you will doubtless wish to plant other trees, and be desirous to know the best season for that work, I would observe as a general rule,. that all kind of trees or shrubs, should be moved or set in the spring, as soon, at least, as the buds begin to swell. The apple-tree, the cherry, and plumb, will grow, if set with art, when the leaves begin to open, but not with health and vigour. The Lombardy poplar will grow, if set with care, any time. But even this hardy tree, which is so very tenacious of life, flourishes best, when removed immediately after the frost is out of the ground.

No farm is complete without an orchard: for this purpose select a good piece of ground, as much defended from the north-west wind as possible. Let this be well summer-fallowed the year before the trees are set, that the sward and weeds may rot, and the soil, by frequent and deep ploughing, may become pulverized and invigorated. Apple-trees should be planted forty feet apart each way, and in exact rows, that you may cultivate with care between them.

In the autumn, before you intend to set your trees, let circular holes be dug for every tree, as large as the small wheel of a waggon, but by no means of a greater depth than the natural good soil; for if you make a deep hole into the clay bottom, or unfriendly soil, it will not do well, although you may fill it with the best of earth; for as soon as the tree pushes its roots beyond the latter, they must come into contact with this unfriendly soil, which will never fail to bring on a decay of the most healthy tree. Should the earth be so very shallow that you cannot cover the roots a sufficient depth with good soil, you must draw some for that purpose, and bank up the roots therewith, or all your labour is in vain; your trees will become sickly, over-run with moss, and full of canker. In taking up the trees from the nursery, let no pains be spared to preserve uninjured as many of the roots as possible. Prune off the broken and bruised parts, and top the long and straggling roots. Do not let your desire to have bearing trees prompt you to choose larger trees than six feet from the surface to the spreading of the branches; for those that are larger seldom thrive, and are more liable to injury from wind.

Every young tree that you take the pains to set, should be clean, smooth, and fresh looking, and free from defects of any kind. Observe that they have been raised at proper distances, and not drawn up weak and spindling; that their heads are well formed, and well furnished; and that their stems are stout, and proportionate to their head. These are important items, and such as you ought never to neglect or overlook.

Besides these remarks, which are applicable to the transplanting of all trees in every situation, if the subsoil is hard and clayey, the downright or tap root must be sawed off, and then smoothed with a knife; and as it is impossible to place the fibrous roots as they naturally grew, it is generally best to cut a great part of them away, or they are apt to mould, and, rotting, create an incurable disease.

If the roots have been out of the ground more than one day, it is advisable to place them in water a few hours before they are set, observing to place them in such a manner that their heads may be erect, and their roots only immersed therein. This will swell the dried vessels of the roots, and prepare them to imbibe food from the earth.

In planting all the large kind of fruit trees, as apples, pears, &c. great attention should be paid to the nature of the soil, and the situation as it respects the prevailing winds. If the soil be cold and moist, or if the substratum be rock or hard gravel, the trees should be planted very shallow: it will be much better to raise a hill of earth where each tree is to stand, than to dig into the rock or gravel, and fill it up with the best of ground; for after a few years their roots will extend to the sides of the holes, and there being stopped, and unable to perforate the rock or gravel, they will decline, and in a few years more will perish, notwithstanding all the care you may bestow upon them. But when they are raised above the surface of the ground, their roots will extend, and find nourishment, though the earth upon the rock or gravel be not three inches thick, as you may often notice, when trees are thus placed.

Having prepared the roots as above directed, you must next prune the heads in such a manner as may be most serviceable in promoting the future growth of the trees.

As your trees are not intended for walls, or espaliers, but for standards in the open field, you should prune off all the small branches close to the places where they are produced, as also irregular branches which cross each other, and all such limbs as have, by any accident, been broken or wounded. But you should by no means cut off the main leading shoots,as is by too many practised,because those are necessary to attract the sap from the roots, and thereby promote the growth of the tree ; for if these middle or leading branches are ever to be removed, it should not be done until the next season, when the roots have taken hold of the soil, and the tree appears to flourish.

Previous to planting, make ready a strong stake for every tree ; let it be sharpened at the largest end ; then with an iron bar make a hole eight or ten inches deep,a small distance from the centre of the place already prepared to set your tree ; here drive down or put in the stakes ; by the side of these stakes place your trees ; one person holding the stems upright, while another casts in the earth. Let the tree be gently shook a little up and down, that the mould may settle close about the small roots ; and let them be raised gradually up, so that the top of the roots may not be more than three or four inches below the general surface, even in the best of soils.

When the hole is filled, tread it gently down, first around the outside, then near the stem of the tree, forming the surface a little hollow, that the rain may not run off; then cover all with some inverted turf or mulch, that the roots may be defended from summer heats, droughts, and parching winds. Then tie the tree to the top of the stake, with some secure bandage, first wrapping a cloth or some coarse tow about the stem, to prevent injury from the stakes, or from tying.

These precautions are all more necessary at this time, than when our country was new. Then the neighbouring forests kept off the violence of the winds, and the luxuriance of the soil caused the trees to flourish, although little or no art was displayed in planting them.

Around your young orchard, a substantial fence must be erected, which must be carefully kept up throughout the year. No beasts of any kind must be permitted to graze in it; they will bark the trees, break down the limbs, or loosen the roots in the earth.

" When a defect in an old orchard is to be supplied, it will be necessary to take away the earth where the old tree stood, to a proper depth, and to the extent of a circle of ten feet in diameter, which fill with fresh earth, previous to planting; for it seldom happens without this management, that young trees thrive, when planted where old disordered ones stood.

"Some persons direct the placing of the same side of the tree to the south, which, before removing, had that position, as a material circumstance, to be strictly regarded; but, from several trials which I have made, I could not observe the least difference in the growth of those trees which were so placed, and others which were reversed; so that I conclude it is not of any consequence to observe this method."

The vernal equinox past, and the reign of the Lamb begun, you may soon expect an invitation into the garden. Let us, therefore, "*take time by the forelock,*" and have all things in readiness for that event. And I hope you will not permit what some people call unlucky days, or any phase, or position of the moon, to delay any necessary business throughout the season. If the planets have any influence upon vegetation, it is too remote and feeble for human calculation; and your own observation, if you had read nothing upon the subject, would teach you that the moon changes every day alike, and that, in common language, when we say the moon will change upon a certain day, we mean no more than that at such a time, the enlightend part of that planet will begin to appear or disappear to us. We know astronomers can tell with the greatest accuracy, the relative position of the heavenly bodies, but they never were able to foretel the state of the weather. Nor has the most careful observer of the moon been able to predict when we should want, or have a shower, or describe the progress of vegetation at any particular period. And yet, these persons assert that we can have no success without a due observance of the moon.

Of the same nature were the occult sciences taught by ancient astrologers. They maintained, and unthinking men believed, that animals, as well as vegetables, were influenced and controlled by the stars. They divided the body into twelve parts,and over each made one of the constellations of the zodiac preside ; and it is still thought, by many, extremely hazardous to perform any surgical operation, however trifling, while the sign or ruling power is operating upon the part affected. In conformity with this opinion, our almanac makers always preface their calendar with a naked figure of the human body, marked with references,shewing their successive influence.

Although these absurdities are wearing away from the minds of reflecting men, they still prevail, and influence thousands, insomuch that I fancy no prudent bookseller would risk the publishing of an almanac without this appendage.

I would not press this subject so much upon your attention, but here an error in principle may, and often does, lead to much error in practice. The gardener will have no success who does not commit his seed to the earth in the proper season. When his land is sufficiently warm and dry, and the necessary tillage performed, he must plant without consulting the moon or stars. The neglect of a single day or hour, may blast all his prospects, and in the autumn he may be unable to account for the failure. There are, perhaps, few countries where the right seed time is so short as in ours.

Europeans who have travelled among us, say that we have only two seasons,the winter and summer. And it is certainly true, that the intermediate space between severe frost and rapid vegetation, is usually not many days. Hence it is a matter of great importance that we should understand and carefully attend to the suitable time for seeding our land, for no subsequent care can atone for an error in this particular.

Upon this and every other subject, think for yourself; bring every doubtful opinion to the test of experiment.

I am, &c.

P. AGRICOLA.

APRIL.

My Dear Son,

Gardening, like every other art, has its mysteries, which none but the initiated can understand, and which none but a practitioner can teach. Books cannot explain all the technical terms, or point out every requisite in the manner of tillage. If you would understand this useful art, make your hands familiar with the tools, and, from some experienced workman, learn *how*, *when*, and *where* to use them. Every village should annually employ a master of this kind, who should have the superintendance of the gardens, and teach the young farmers the art. He should instruct his pupils in their own gardens, show them the proper form of cultivating the several kinds of soil, the best mode of applying manures, and how to make ready the seed bed for all kinds of plants, and how to prune and propagate the small fruit-bearing shrubs.

They should learn of him when the proper season has arrived, and when the soil is sufficiently dry, to commence the business of gardening; for without this knowledge there can be no success, and without success, no pleasure in gardening. Frequent disappointments will dishearten and disgust the young practitioner, and he will soon despise the art which he would otherwise love, and practise with delight. As such teachers, however, are not always to be had, it shall be the business of these letters to supply their place as much as possible. The first lesson I shall attempt to teach, will be to show when the work of making garden, as it is called, should begin. Our seasons are so various, that no particular period can be assigned. Some years we may commence ten or twenty days earlier than others. As soon, however, as the frost is out of the ground, there is something necessary to be done in the garden; and you must begin to "*dress it.*"

Your garden, I conclude, is already substantially inclosed. Let us then survey the premises, stake off the several apartments, and lay out the necessary walks or alleys.

The alleys should never be broad or numerous, but just sufficient to divide the allotments, and enable you to pass conveniently from one to another. Three or four feet wide is amply sufficient for the main or principal walks. If laid out broader than this, they occasion much labour, or will soon be overgrown with grass or weeds.

In all your horticultural plans and operations, let neatness and utility preside. In the gardens of the opulent, expense may be disregarded ; but a farmer's success depends upon economy in all things. Our gardens, as well as our farms, must yield a profit, and there is nothing more easy than to make them do so.

Let your walks be few ; let them be parallel, and let all their turns be at right angle. Stretch a line upon each side, and throw out the surface of the ground, to the depth of five or six inches ; fill this with fine gravel, or rather coarse sand, if there is any in your neighbourhood. This done, smooth the surface with a rake, and finish the walk a little higher in the middle than at the sides, that the rain may run gently off, and stand no where in the path. This work well done, you may, throughout the season, keep them clean at a small expense, and save all the labour of rolling and sweeping.

As to grass walks, I advise you never to give one a place in your garden ; for without constant attention, they are inconvenient every where, and form a safe retreat and nursery for insects.

The gooseberry should claim your next attention. If you have an old plantation of these shrubs, now carefully spade around the roots, turn over the soil, and pull out all the grass that may grow near them. Then take your strong knife, and begin the necessary operation of pruning. First cut out every worn out, decayed, or irregular branch. Let none be permitted to grow across each other, but let all be pruned to some regular order. Cut out all the superabundant lateral shoots of the last summer, close to the ground, or old wood, only retaining here and there a good one, to supply the place of casual, worn out bearers. Never permit the extremities of the branches to stand nearer than six or eight inches of each other.

This is also a proper season to plant out the gooseberry. They should stand so far apart, that you may have ample room to cultivate and manure the earth around them.

The best method of propagating this shrub is by cuttings or layers; for those plants which are produced from suckers are always more disposed to send out a great number of shoots from their roots, than such as are raised from cuttings or layers.

The only season for planting these cuttings is sometime in this month, as soon as the frost is fully out of the ground, and before the buds begin to open. Observe always to take the fairest shoots, and from such branches as generally produce the greatest quantity of fruit; for if you take those which are produced from the stems of the old plants, they will never bear so well as those taken from fruitful branches. These cuttings must be of the last summer's growth. Cut them with a sharp knife; let them be about ten inches long; plant them in rows, a foot apart; insert them two-thirds of their length into the ground; and if the weather should prove dry, you must not neglect to water them frequently and freely, to facilitate their taking root.

In the summer, when they have put out, you should rub off all the under shoots, leaving only the uppermost or strongest, which should be trained upright, to form a regular stem.

In the autumn, as soon as the leaves have fallen, take up these plants: trim off all the lateral branches, and replant them in rows two feet apart each way, observing to place a small stake to every plant, to train their stems upright and regular. Here they may remain two or three years, being careful to keep them clean from weeds, and also to spade up the ground between the rows, every spring; likewise to trim off all shoots which are produced below the head of the tree, so that the trunk may be clean about a foot above the surface of the earth; and as the branches commonly grow very irregular, you must not neglect to cut away such of them as crowd or cross each other, that the head of the plant may be open, and capable of admitting the light and air freely into the middle, which is of great use to this kind of fruit. While these plants are young, they should be transplanted to the places where they are intended to remain, for it is not good to have them grow in the nursery too long.

The soil in which these shrubs thrive to the best advantage, is a rich, light, sandy loam, although they will grow well upon any good land.

If you expect this fruit in the greatest perfection, let them not stand in the shade of other trees ; let them have a free, open exposure, and be planted six feet asunder. With this management, your fruit will be twice as large as those produced upon bushes which grow among the grass, encumbered with all their shade and branches, and the shrubs will continue in vigour much longer. But you must keep the ground clean, and dig it well over at least once a year; and as often bestow a little rotten dung upon it, which will greatly improve the fruit.

These rules faithfully observed, you will not fail to have every year an abundance of fine fruit, and to be amply rewarded for all the time you may bestow upon them.

CURRANTS,

Should also be kept thin and regular. The branches should not run across each other, and the old and superabundant stems should be sawed off close to the ground, and a large proportion of the annual shoots should be thinned out ; for when they are permitted to grow irregularly and crowding, they produce but small fruit; and the great thicket of branches excluding the rays of the sun, the berries will not ripen freely, and with a good flavour. Both gooseberries and currants must have an annual pruning, that the young bearers may have room, and the benefit of the sun and air.

THE RASPBERRY

is another valuable shrub, which should be allowed a place in the farmer's garden.—There are several varieties of this plant, natives of this country, which, if judiciously cultivated, are equal in flavour and usefulness to any brought from Europe.

Our black and red raspberry are both excellent, and have many admirers.

"In forming a new plantation, observe that it is the young shoots or suckers which arise every summer from the old roots, that are to be chosen for this purpose. These should be planted in good ground, and in an open situation. If you dig in some rotten manure, it will be of considerable service to the plants, and promote a production of large fruit."

"In choosing the plants for this plantation, select the outward young suckers of strong and robust growth, all of last summer's production: dig them up with full roots; and as sometimes one, two, or more buds appear formed on the roots, near the bottom of the stem, for next summer's shoots, such plants are to be particularly chosen, if to be had."

"Previous to planting, shorten the shoots, cutting off about one fourth of their length. Trim the roots, and cut away any old stumps, or hard, woody parts, annexed thereto ; then plant them in rows, four feet and a half asunder, and from two to three feet distant in the rows. They will produce some fruit next summer, and more abundantly the second year."

"Every spring, the raspberry must be carefully pruned, before the buds begin to swell ; in doing of which observe to clear away all the old decayed stems, which bore fruit last year, and to leave three, four or five of the strongest of last year's shoots standing on each root, to bear next summer. All above that number on every root, must be cut off close to the surface of the ground, and all straggling shoots between the main plants must also be taken away. Each of the shoots which are left, should be shortened by cutting off about a fourth of their original length."

When you have finished pruning, or as soon after as possible, dig the ground between the plants, observing, as you dig, to clear away all stragggling roots in the intervals, leaving none but such as belong to the shoots which are left to bear; but the buds which are placed at a small distance from the stems, must not be cut or injured, because those produce the new shoots the following summer.

THE BLACKBERRY,

or Bramble, another of our native shrubs, well deserves a place in the farmer's garden, and will liberally repay the expense of cultivation. It should be propagated and pruned in every respect like the raspberry, but being somewhat larger, requires more room. It is very much disposed to throw off young shoots from the roots, and unless great care is taken to destroy them, they will spread, and fill the ground, and soon make an impenetrable wild. But this is no difficult task, if the space between the rows is well wrought, and kept, as it ought to be, quite free from grass or weeds.

The bramble, as well as the several kinds of raspberries, do not ripen their fruit at once, but in succession, for several weeks, as if designed to court our notice, and bountifully to reward the care we may bestow upon their cultivation, by a frequent offer of their bounties. The fruit should be regularly gathered as it comes to perfection, and be directly used after being picked; for although they may remain good on the bush a few days after being ripe, if kept in the house a single day, they will be found to have lost much of their delicious flavour.

A plantation of these shrubs will come to perfection in three or four years, and if nursed as above directed, will continue fruitful for eight or ten years. It should then be grubbed up, and entirely renewed. Two years, however, before this, a new quarter for this fruit should be prepared.

The ground upon which the old shrubs have stood will be found to be greatly improved, and should now be employed for some other use.

THE ORCHARD

will also at this season, claim a share of your attention. As soon as the frost is quite out of the ground, the buds will begin to swell. Then, without delay, cut your scions for grafting. Select them from smooth, healthy, full-bearing trees; they should be shoots of the last summer's growth, and taken from the lateral, or horizontal branches. If you cut a small piece of the older wood with the scion, so much the better. Tie them in small bunches, and place them with the large end down, half way in the earth, and cover them with straw, to prevent drying. If you bring grafts from any considerable distance, pack them in light earth, and inclose them in moss or damp straw.

The best time for putting in grafts, is usually the last of this month, or the first of next, according to the season. Watch the progress of vegetation in the stocks you intend to graft; mark when their buds are swelled, so as to be nearly ready to burst into leaf; this is the time for the operation, and if skilfully performed, you may expect the greatest success.

When you would change the fruit of an old tree, be sure to graft on smooth, healthy branches, and as near the trunk as possible. In order to perform this operation neatly, you must be provided with a strong knife, and fine hand-saw, for cutting off the heads of the stocks; with a grafting-chisel, which may be made of wood, and a sharp pen-knife for shaping the grafts, and smoothing the stocks for their reception. You should also make ready, several days before hand, a quantity of grafting clay, prepared in this manner:—Take two parts of good loam, free from stones, and one part of fresh cow-dung; mix them well together with a hoe, and add a handful or two of fine salt, to prevent cracking, or drying too fast. Work this well together, and add as much water as will make the whole into mortar; and several times before you want it for use, re-work it, and effectually incorporate it together, for the more and oftener it is worked over the better.

I have tried various methods of grafting, and recommend to your notice that which is commonly called cleft-grafting, as being quite simple, and easily learned. When the proper season has come, and you are suitably prepared with all things necessary, begin the operation in this manner: first with your knife cut off the head of the stock, or if the stock is large, use the fine saw; this done, fix upon a smooth part, just below where headed, and on the opposite side to that, cut away part of the stock, about an inch and a half in a sloping manner upward, so that the crown of the stock may not be more than half an inch broad, which slope and crown, cut smooth and neat.

Then prepare your grafts in the following manner: Cut them four or five inches long, with two or three buds to each: then take your sharpest knife and cut away the bark, and some of the wood, at the large end of the graft in a sloping manner, about an inch in length, on opposite sides, making it have a wedge-like shape, but let that edge which is to be placed outwards in the stocks, be left thicker than the other, with the bark continued thereon.

The graft being prepared, take your strong knife or chisel, and place it on the middle of the stock, not across, but contrarywise to the sloped part, and with a small mallet, strike the knife or chisel into the stock, observing to cleave it no farther than is necessary to admit the graft freely: then place the wedge a little way into the cleft, at the sloped part of the stock, to keep it open for the reception of the graft, which directly introduce into the cleft, on the top of the stock, at the back of the slope, inserting it with great exactness, as far as it is cut, with the thickest edge outward, and so that the rind may meet exactly, every way, with that of the stock. The graft being placed, remove the wedge; take care not to displace the scion. This done, clay the whole over, an inch thick, on every side, closing it effectually, and tapering it up to the scion, to prevent the air, sun, or rain reaching the grafted part, until the union is complete. Then finish the operation by applying a bandage of rags or coarse tow, to prevent cracking and falling off.

Your shrubbery and orchard having received their due attention, be ready to move the soil in your garden; but do not let a desire to have early fruit induce you to work the ground while wet, especially if the soil is of a loamy or clayey quality; nor should you delay the business until it binds, and becomes hard: a middle course is best. As soon as the earth works freely, and neither shines or adheres to the spade, spread all over the surface, a coat of well rotted manure, and immediately introduce the plough. Take small furrows, into which rake the dung every 'bout, and plough as deeply as possible. The corners and those parts where the plough cannot come, must be carefully turned up with the spade, and made fine; for the more minutely the soil is pulverized, and the constituent parts mixed and blended together, the greater will be your success. Before planting every kind of seed, let this indispensable operation be nicely executed, for it is much easier and better to till the ground before seeding than afterwards. When your land is well prepared, the seeds not only germinate more freely, but the plants are more luxuriant, and less liable to be injured by insects. It is quite a mistaken and slovenly practice to plant before the ground is in good order, well mixt and fine, with a view of mending the tillage afterwards. No subsequent labour can make up for this neglect; for vegetables, like animals, require careful nursing in their infancy, or they never will grow large and flourish. Keeping these primary principles always in view, proceed now to make your garden, and unless prevented by bad weather, or some other untoward circumstances, let it be done in the following order:

Dress and propagate perennial plants.

HORSE-RADISH.

This is a valuable plant, and merits much more attention than is usually given to it. In some families the roots are much esteemed, and upon every table, the tops are prized as an early and pleasant green. As soon as the frost is gone, it shoots up, and in a few days is fit for cutting. The flower-stalks are the first that rise; when these are five or six inches above the ground, cut them smooth off, with all the leaves that accompany them, and in a few days fresh fine leaves will spring up; these in their turn should be cut close and smooth to the ground, and in this way a successional crop of fine pot-herbs may be had all summer. Remember to cut them off while young, and of a suitable size for boiling, although they may not be wanted for use, or they will soon grow too large, and become bitter. The best way of propagating this plant is by cuttings of the roots, or from the offsets that rise from the sides of the main root. Select a border of your garden, where the plough will not interfere, and having broke up the ground the depth of the spade, plant these sets in rows, about two feet apart. Then level the ground, and keep it free from weeds, until the plants are so far advanced as to do that business for themselves, At this season of the year, they will always require one dressing and spading about the roots. When the roots are wanted, take care to leave some of the offsets remaining, and they will grow anew, and flourish for many years.

ASPARAGUS.

You will do well to plant out immediately, a bed of this fine vegetable; for it will be three years from the time of planting, before you can cut any considerable quantity for use. A few of the strongest shoots may perhaps be taken the second year, but it must be done with a sparing hand.

The ground intended for an asparagus bed should be situated so as to enjoy the full benefit of the sun, and should have a bountiful supply of manure, and then be regularly trenched two spades deep, and the dung buried equally in each trench, a foot below the surface. This done, lay over the bed several inches of well rotted manure, and work the ground over again one spade deep, carefully mixing this top-dressing with the earth. A bed four feet wide, and thirty long, will yield a supply of this article sufficient for your family. In planting, stretch your line along the bed, eight inches from the edge. Then with a spade, cut out a small drill, close to the line, about six inches deep ; here place your plants, ten or twelve inches apart in the rows, and two or three inches below the surface of the ground ; draw the earth with your hand against the roots, so as to fix the plants in their proper place. This done, in the same manner plant three other rows in the bed, at equal distances. When the plants make their appearance above the ground, hoe them with care, and by no means permit weeds, or any other thing to grow near them.

This is the quickest mode of raising a productive bed of asparagus. But Mr. Armstrong says, "if you can postpone the use of this plant for a year or two, sowing is to be preferred, because the crop it gives (other things being equal) though later in coming, is more abundant, of better quality, and of longer duration;" and he directs the bed to be made in the following manner.

"In the summer or autumn preceding your sowing, lay out the bed four feet wide, marking the angles by stakes. Excavate the bed to the depth of twenty-six inches, and if you find the bottom cold and clayey, and retentive of moisture, sink it half a foot deeper. Lay on this, six inches of coarse gravel, or stones, or both, and on these place a layer of equal depth of tanners' bark, or chips, brushwood, weeds, horns, hoofs, or any other slowly decomposing matter, vegetable or animal. Over this, spread another layer, composed of cow-dung mixed, to the depth of twelve inches; and on the top of all, replace the surface-soil you have thrown out, adding to it as much well rotted dung as will entirely fill up the excavation. Then rake it level, and remove the poor soil thrown out in trenching. As early in the spring as the temperature of the weather, and the state of the ground will permit, dig the bed ten or twelve inches deep, and work into it as much well rotted dung as will bring it to the level of the alley. Then rake it smooth, and trace out with the spade or the hoe, four small trenches, lengthwise of the bed, and at equal distances, about an inch deep, and in these sow fresh, large, and well ripened seed, and so sparsely that when the plants rise, they will not be found nearer together (in the rows) than fourteen inches. Draw an inch of mould over the seeds, and then roll or tread the rows, so as to press the seeds and the earth every where into contact."

When the young plants have got a few inches above the ground, if they stand too thick, or within ten inches of each other, thin out the weakest of them, and take care that the remainder are not stifled with weeds. Every spring, as soon as the frost is gone, work the ground between the rows with a strong dung-fork, and carefully loosen the whole bed to a moderate depth; but take care not to go so deep as to wound the top of the plants, now on their way coming up.

The shoots are fit for use when about three or four inches high, and should be cut off slanting, three or four inches within the ground, taking care not to wound any young buds coming up from the same root, for there are always several shoots advancing in different stages of growth.

Upon good ground a considerable crop of Asparagus may be raised without this extraordinary labor, but the abundance which a well prepared bed will produce for ten or more years, largely compensates the expence of cultivation.

THE RHUBARB, OR PIE-PLANT.

At this season of the year there is nothing more pleasant, and physicians tell us there is nothing more healthy, than a frequent use of thrifty green vegetables. And as variety alone can please, this plant should have a place in every kitchen-garden. The majesty and beauty of the rhubarb is not surpassed by any tenant of the garden. When planted upon rich ground, the leaves are often two feet long, and as much in breadth ; and their foot-stalks half a yard long, and nearly an inch in diameter. The flower-stalks sometimes grow five or six feet high, and are terminated by thick, close spikes of white flowers. Every part of this plant is valuable : the wide spreading leaves make a fine potherb ; their foot-stalks a good pie or tart, and the roots a useful medicine. The foot-stalks are dressed by paring off the rind with a sharp knife, then cutting them into small pieces, and stewing with sugar, like gooseberries.

When the roots have three or four years growth, some of them may be taken up for use. This should be done in the autumn, when the leaves and stalks are quite decayed. When taken up, wash them clean, trim off all the small branches, and lay them in an airy place to dry for four or five days ; then rasp off the outward skin, which greatly obstructs the quickness of drying. The mere stripping off the bark will not be sufficient; the rasping it off, and the lacerating of the outward part of the root will be necessary; for the lateral pores must be opened, to permit the confined watery fluid to exude freely. Then cut them in slices, which string on pack thread, so as not to touch, and hang them up in a stove room, to be kept constantly warm, till they are effectually dry. The drying of the roots without suffering them to get mouldy, is an essential point, and is considered a difficult task.

The marks of the goodness of rhubarb, are the liveliness of its colour when cut, its being firm and solid, but not flinty or hard, its being easily pulverable, and appearing when powdered of a bright yellow colour; on being chewed, its imparting to the spittle a deep saffron tinge, and not proving slimy, or mucilaginous in the mouth.

The ground for this plant should be good, and prepared by deep spading and pulverization. The seed should be sown in the spring as early as possible, in hills two feet apart each way. When the young plants appear, keep them free from weeds, and for several weeks of their infancy, protect them from the scorching rays of the sun; they will then become more hardy. Or, what some think less trouble, sow the seed in beds, and the ˉnring following, transplant the roots into such borders or places as you may wish to have them stand. In moving these roots, take care not to break or injure them. Let them be immediately replaced in the earth, and many of them will bear seed the same year, and will grow stronger and better for ten years.

HOPS.

Every farmer's family has occasion for a few pounds of hops, and you should assign them a place in your garden.

A few hills, properly attended to, will supply your kitchen with this necessary article. This plant will grow upon almost any soil, but unless the land is fine and rich, it will produce but little.

Hops should stand in hills, six or eight feet apart. For making these hills, dig round holes, two or three feet in diameter, and a foot in depth; fill up these with the earth thrown out, well mixed with rotten dung.

In the spring, when the plants begin to shoot, take cuttings from branches which grow from the main root; if of the last year's growth the better, and these are known by their white appearance; let each have three or four buds; bury them lightly in the hills, with the buds uppermost. Give two or three sets to a pole, and three poles to a hill.

The first year, the vines will not require poles, but the ground, in this, as in all succeeding years, should be kept free from weeds. As the vines rise, let them twist themselves together, and let the hills be raised a little around the plants. Early in the spring of the second year, and annually afterwards, the ground should be dug around the hills, and some old manure mixt with the soil; then with an iron bar make deep holes, and set three poles to every hill. Set them so as to form a triangle, with one point towards the prevailing wind, and incline them so that they nearly meet at the top. Poles of ten feet are long enough for the first year; after that they are to be fifteen or twenty feet long, according to the strength of the ground; but they should never be so long that the vines cannot go beyond the tops, for they seldom bear much before they get to the ends of the poles.

The spring ploughing and spading of your garden performed, and the perennial plants dressed out, let all things rest here for a few days. Let the loosened earth have time to dry, and imbibe the genial rays of the sun, and it will then work more freely, and will not be so liable to bake and become hard afterwards, when your seeds are planted. Or if the weather has become tolerably mild, first plant out such cabbages, beets, carrots, turnips, parsnips, &c. as you intend for seed. The first should be planted in rows three feet apart, and about half that distance from each other in the rows, up to their heads in the earth. The rest may all be planted in separate rows two feet asunder, at the distance of twelve inches root from root. The holes to receive them should be made sufficiently deep to admit the entire root, with the crown at least six inches below the surface of the ground. Press the earth firmly around the roots with the hand, and cover an inch or two of loose soil over the tops ; but the cavity in which they are placed must not be filled until the plants vegetate, and their seed-stalks have risen above the ground ; then draw the adjoining earth around their stems as they progress. This will give them effectual support against the winds or rain, and save the necessity of stakes and cords.

I am, &c.

P. AGRICOLA.

MAY.

My Dear Son,

The sluggard is known by the neglect of his garden. Inattentive to the proper season of planting, and too idle to perform the necessary tillage, he but lightly stirs the surface of the ground, and without art, sows his seed "*by the way side.*" His plants, as might be expected, are immediately impoverished with weeds, or devoured by hungry insects, if they escape the depredation of larger animals. And there is another class of men, who take much pains to manure and make their garden, and then desert it altogether, seeming to expect a crop without any further attention. These men will never derive either pleasure or profit from a garden.

"The man of understanding" knows full well, that when his garden is planted, although it may be done in the most skilful manner, his care and labour is but half accomplished. It is folly in the extreme, to plant a garden, without a full determination to defend it from weeds and insects.

All horticultural plants are feeble in their origin, and most of them continue so a length of time. Care must be taken that they do not stand too thick, and starve for want of food and air; and it would be equally improper to have their ranks too thin, and any considerable portion of the ground, with which you have taken so much pains, lie waste and unproductive. Besides all this, the health and vigor of your plants require that the ground around them should be often stirred and pulverized. And here the appearance of weeds may be properly considered as timely monitors, that your vegetable infants want the bosom of their mother earth raised and opened for them. Without them we might forget that plants, as well as animals, must have their daily food, and that in proportion to their wants or cravings, or they must certainly become stinted, feeble, and unfruitful.

If showers are frequent, the earth settles and becomes firm and unyielding around their stalks, and requires as frequently to be moved and loosened; if the weather is dry, stirring and making the soil fine will do more to prevent the injurious effects of drought, than the most copious artificial watering. Indeed artificial watering is seldom useful, and when applied injudiciously is always hurtful; but if your ground is not too wet, you can never hoe or stir the surface without advantage. Besides, frequent hoeing is the easiest and cheapest mode of tillage. I had rather hoe three times than once.

If, previous to planting, the ground has been put in good order, and the roots of weeds are not permitted to gain strength with age, a very trifling attention and labour will effectually prevent them from starving and injuring your garden. In a particular manner do not permit weeds to stand in the neighbourhood of your plants in very dry weather, for they are generally strong drinkers, and will imbibe all the moisture within the reach of their roots, while your tender plants are drooping and sickening for want of it.

With these previous remarks, let us go again into the garden, and put what they teach into practice.

ONIONS.

By the first of this month, or before if the ground works freely, without adhering to the spade or rake, make ready your onion plantation; for the earlier you can get in your seed, provided the ground is in good order, the larger and better onions you will have. Onions flourish best, and are cultivated with the least expense, upon a rich sandy loam; but may be raised upon almost any soil, properly wrought and rightly manured.

If your ground was not plentifully enriched last fall, now spread over a coat of fine, well rotted dung, aad dig it a full spade deep, incorporating the dung therewith, and pulverizing the earth as you proceed in digging. This done, take the coarse rake, and draw off, or pulverize all the lumps within reach of the teeth. Then take the fine rake and continue raking the surface, until the whole becomes firm and compact; observing to keep the whole plantation level, or rather a little crowning, that water may never stand upon any part of it. This done, stretch a line eight inches from the alley, and with your small hoe make a drill an inch deep along the line; here scatter the seed even, and with a liberal hand, immediately covering it with a fine rake, and completing the process by pressing down the earth over the seed with the broad hoe. This done, move your line ten or twelve inches back, and repeat every part of the operation already described, until all is planted. Over this plantation you may sprinkle a little lettuce and cabbage seed, for many of these plants may grow here until wanted, without the least injury to the onion crop.

In planting onions, art is more requisite, perhaps, than in any other part of gardening. They must be planted early, so as to begin to bottom before our scorching dog-days. The ground must be rich, it must be made fine, yet must not be left loose and spongy. With very little skill, you may raise the long-necked scullion; they will grow if late planted, and slovenly attended. But if you are pleased with large, swelling, bulbous bottoms, observe the above directions, and take care that they suffer no neglect afterwards.

There are several varieties of the onion, principally distinguished by their colour; as, the red, the yellow, the white, and silver-skinned, all requiring the same method of cultivation. And there is a separate species of this plant—

THE MAGIC ONION,

sometimes called the Canada, sometimes the tree, or top onion. This is a singular plant, and deserves cultivation, not only for its domestic use, but as a curiosity. All other plants raised in the garden are oviparous, or in other words, re-produce their species from seeds or eggs; but this alone is viviparous, and brings forth its young alive, in clusters of four or five, around the parent stalk. These continue to enlarge, until their weight brings them to the earth, where, if not prevented, they take root, and the maternal stalk now becomes useless, dries off, and the next season, these in their turn become parents, and re-produce a numerous progeny.

This species of onion is raised with less art than the other. If you would have them in perfection, make your ground ready as for the other kind; then stretch a line ten inches from the alley, and with a small hoe make a furrow two inches deep; in the bottom of this place the top bulbs, or infant onions, five or six inches apart, with their points or heads uppermost; then fill up the drill with light earth, which should be pressed down with the hand or broad hoe. This done, remove the line back a foot, and in the same manner, plant as many as you please. In setting out these bulbs, you should not place the large and small ones promiscuously together, but separate the large from the small, and plant them in different rows; for the largest will generally become breeders this season, while the small ones will enlarge, and swell into beautiful onions, fit for any use in the kitchen.

The magic onions intended for seed, or breeders, should be two years old, and the largest and best of their kind. They must on no account stand near the other species of seed onions, or they will degenerate, and a mongrel race ensue.

SEED ONIONS,

if not set out in the autumn, must now be planted as soon as the ground is sufficiently dry. For this purpose, make choice of a good piece of ground, which dig a full spade deep, breaking it fine as you proceed. Then select the firmest, largest, and best shaped onions of the most desirable kind, with no growth from their tops; observing that each variety is to be placed separately, and remote from any other.

Having your ground dug, and your roots in readiness, strain a line ten inches from the alley, and with a spade throw out an opening or drill, six inches deep along the line ; here place the onions upon their bottoms, about eight or ten inches apart ; then with a rake draw the earth into the furrow, so as to cover the bulbs two or three inches ; then remove the line fourteen inches further back, and plant another row as before, and so proceed until all are planted.

By planting the seed onions thus deep in the furrow, you will afterwards be able to support the stalks by drawing the earth about them, and the wind will neither loosen or throw them down.

LETTUCE.

This in some families is distinguished by the name of Sallad ; and it is truly a valuable one. Let it be your ambition to have it early, and of a fine quality.

There are many varieties of this plant. Take care to be provided with a good kind of seed ; such as will form a large head, and will not run to seed before they attain full growth.

The place selected for a lettuce bed should be defended from the northwest winds. Make the ground rich with well rotted manure, intimately incorporated therewith. Let the surface be raked fine, and lie a little sloping south. Sow the seed sparingly, broad-t or in rows, as you may choose; then lightly, with the fine rake, cover the seed. Here you may also sprinkle a little cabbage seed, and perhaps draw a number of fine plants, without injury to the lettuce.

When the lettuce comes up, take care that it does not stand too thick. While small it should be pulled out, before the plants crowd and oppress each other. These may be transplanted into good ground, at the distance of ten inches apart, and before they grow large, every other one should be drawn for the use of the table.

Lettuce, while small, will bear transplanting extremely well, though the plants will never be so large as those which were left upon the spot where they were sown; but they will cabbage finely, and come somewhat later, and save the necessity of sowing every month; for lettuce sown after the weather becomes warm, soon runs up to seed, without heading, and is good for nothing.

PARSLEY,

for an early crop, should now be sown in single rows, along the edge of the quarters, or borders of the garden. It will make an useful and neat edging, if not suffered to grow too large, and as it bears transplanting very well, any blanks may be easily filled up in rainy weather.

The seed will remain a long time in the ground before it comes up, but there is no danger of its perishing.

It may be right here to notice, that the poisonous plant, called fool's parsley, or wild parsnip, a common weed upon the banks of the Mohawk and elsewhere, has sometimes been mistaken for the garden parsley. They are very easily distinguished. The leaves of the poisonous plant are of a darker green, of a different shape, and instead of the peculiar parsley smell, have, when bruised, a sickish, disagreeable odour. The timid may shun all risk of mistake by cultivating only the curled variety, which is in every respect as useful, and a more beautiful plant than the common kind.

A few of the strongest plants should not be cut, but suffered to run to flower, and they will produce an abundance of seed.

CABBAGE.

There is no vegetable grown in the garden, of more value than this. There are many varieties, but all those which are commonly called cabbage, require nearly the same treatment. The seeds should be sown as soon as the weather becomes warm, and vegetation begins; for the earlier you can get plants, the larger will your cabbage grow, and the heavier their heads will be.

Cabbage seed may be planted where the

crop is intended to stand, or may be sown in beds, and afterwards transplanted. The first method is more liable to injury from insects, and will sooner run to seed; the latter is therefore generally preferred; and a small spot will produce abundance for your family. For this purpose, take a large box or tub, and set it in some open exposure, fair to the sun; fill it with horse-dung within six inches of the top, when trod firmly down; then fill the vessel with rich garden mould, and immediately sow the seed quite thick, covering it half an inch deep with fine earth, which press down firmly and evenly with your hand, and finish by sifting a coat of fine soot or ashes over all.

In a few days the plants will appear, and if at this time they stand so thick as to touch each other, let some of them be pulled up.

If the weather should prove dry, sprinkle them every evening, with water warmed in the sun. Plants raised in this way, will not be injured by the turnip fly, and will grow strong and vigorous when removed.

There is another method of raising cabbage plants, which is preferred by some farmers. They go into the field, and dig up a spot of good earth, then heap upon it a large quantity of chips, brush, or other old wood; this they burn, and as soon as the fire is out, they rake over the bed, and carefully mix the soil and ashes together; here they sow the seed, and immediately cover it with the rake. A temporary fence is erected to defend them from the cattle, and in this way an abundance of fine plants are produced with ease and certainty.

The several kinds of cabbage seed should not be sown promiscuously in the same bed, but in separate beds, or marked allotments.

Every variety of the cabbage has its peculiar excellence, and each in its proper season successively contributes to our wants.

In the spring, as soon as vegetation commences, the Brussels' sprouts appear, and present the first fruits of the garden. This, and Jerusalem Kale, are very hardy plants. They never head, but the leaves, after being pinched with the frost, make most delicious pot-herbs, and boil greener than any other of the cabbage tribe. They will survive a very severe winter, and afford a grateful repast, when most other plants perish. They should be planted where the northwest winds cannot approach, and where the snows of winter may lie undisturbed upon them ; or they may be taken up before the winter frosts set in with much severity, planted in trenches up to the leaves, and covered occasionally with straw or other light covering. The heads may be cut off as wanted, and in spring, the stems, if taken up and planted out, will produce an abundance of most delicious sprouts.

In the summer and autumn, the early Yorkshire and small Smyrna cabbage present a ripened head, and is welcomed at every table. The seeds of this cabbage should be sown in a hot bed, about the middle of April, and the plants will be fit for removal by the middle of this month. When they have attained leaves as large as a cent, let them be transplanted into a nursery bed, prepared of rich earth, and in an open and warm situation; here they should stand six inches apart, and if the weather is dry, be frequently watered.

At the commencement of winter, the Savoy is in its glory, and this is followed by the drum-head and sugar-loaf—noble plants! and the largest of the cabbage family, some of them weighing more than twenty pounds. These, if laid away with art, will bountifully supply the table until the Brussels' sprout is sufficiently grown to take their place.

Besides all these, there are many sub-varieties, some of which are preferable for a summer crop, others for an autumn crop, and a third set for winter supply.

The cauliflower is indeed a fine plant, and justly considered to be the flower of the cabbage family. It grows sometimes to the height of four or five feet, with its leaves loose, and in the natural way, and forms its stalk, or flower-buds, into a head, which is very tender and delicate.

If you would grow this plant in perfection, take care to procure seed that is genuine, or free from adulteration. In March, let it be sown in a hot bed; when the plants are two or three inches high, they should be moved to another hot bed, of lower temperature, and larger dimensions; here they should be set four inches apart, and remain until transferred to the open air, where they are to stand. The time for doing this is when the earth, by its spontaneous productions, shows the internal heat necessary for vegetation.

The cabbage-turnip, and the turnip-rooted cabbage, are both extremely hardy, and merit attention from every farmer. They are frequently used for culinary purposes in the same manner as turnips, and in the spring, the sprouts make delicious greens.

Well might Dr. Johnson, in his "Journey," remark, that before the Scottish peasantry acquired cabbage, they must have had nothing.

Every variety of the cabbage requires a strong rich soil, inclining rather to clay than to sand; but will grow in any soil, if it be well worked, and liberally manured with compost, or well rotted dung.

In selecting your cabbage ground, be particular to avoid the place where any thing of the kind has grown for at least two years past. This precaution is of the utmost importance;

and although some instances may occur where cabbage or turnips are raised well for two or three years in succession on the same land, yet experience shows it to be generally a bad practice. There is no crop that exhausts and impoverishes ground more effectually; besides, they are the favourite food of many insects, which deposite their eggs in the earth, so that if you continue for only a few years to set cabbage in or near the same place, no care or skill will overcome their united attacks.

When your plants in the open ground are three or four inches high, they should be transplanted the first moist or cloudy weather. You must not, however, wait too long for this favourable state of the atmosphere. If your plants are sufficiently grown, they should be set, whatever may be the state of the weather. If the earth is quite dry, the proper time for setting cabbage is just before sunset, and they will require water in proportion to the dryness of the earth; and this should be given moderately after, not before, the plants are set in their place.

Take them up with the hollow trowel, with as much dirt about their roots as possible; place them upright in the ground, and gently press the fine earth about their roots. The large kind of cabbage should stand three feet apart when left for heading; but the small kind may stand nearer.

In bringing plants from a distance, be careful to preserve the lateral fibrous roots; lay them gently in a basket upon some moist grass, and cover them lightly with green leaves, and immediately before setting, dip their roots into water, and afterwards, unless the ground is quite wet, give them a sprinkling from the watering-pot. You should be provided with covers made of two boards, each a foot long, and nailed together at right angles, to shade immediately every plant. These covers must be taken off at sunset, that the plants may have the benefit of the evening dews, and again returned in the morning, if the day is likely to prove clear and warm. Although you may have observed all these directions with the nicest precision, do not conclude that your crop is certain, without further attention. Every week the plants must now be hoed, and the dirt made fine and brought about their roots, while the space between the rows is kept smooth and clean. If this work is done in the morning, while the dew is on, so much the better, and if the weather is very dry, it cannot be repeated too often, for otherwise they will become stinted, and infested with insects.

PARSNIPS

are a highly nutritious esculent, and merit much more attention than is commonly given to them in this state. They make a rich and healthy sauce, and are relished by almost every person; yet, with all these excellencies, very few families bring them often upon the table.

The parsnip is a very hardy plant, as is evident by its growing upon any good land, wherever the seed is scattered, without cultivation, but will thrive best, and grow the largest, upon a rich sandy loam. *The seed should never be more than a year old,* and as it remains a long time in the ground before it germinates, should be sown as early in this month as the earth can be got in proper condition to receive it, which ought always to be a principal consideration, for nothing can be worse than to work land whilst too wet.

The ground should be spaded at least a foot deep. Take but thin spits, and break all the lumps, that the roots may have full liberty to run down long and strait; for if the earth is not well pulverized, they will grow short and forked. Rake the ground well after you as you proceed in digging; then stretch a line eight inches from the alley, and make a drill an inch deep; here sow the seed, and cover it by filling the drill with loose earth; press down the ground with the broad hoe, and your work is finished. Then move back your line fourteen inches, and plant, as directed, another row, &c.

Early radishes or lettuce may be planted in the intervals, and, drawn in season, will do no injury to the main crop. Or a few carrots may be sown promiscuously among them, and if pulled up while young, will not materially hinder the growth of the parsnips, which spread and swell chiefly in the latter part of the summer.

CARROTS,

are a very productive crop, and will abundantly repay the expense of cultivation, in the field or garden. If the soil is good, and the management judicious, eight hundred bushels of these valuable roots may grow upon an acre, and the milch cows shall pay a liberal premium for the surplus quantity not wanted in the kitchen.

Carrots delight in a warm, sandy soil; it should be ploughed deep, and afterwards well broken and mixt with the spade.

When manure is given to carrot ground, it should be deep buried, beyond the reach of the roots, else they are apt to become forked and diseased. In general, it is best to plant corrots upon dry land, that was well manured the preceding year. There are several varieties of this root; the orange-coloured is the one usually preferred.

The seed, if well laid up, will be good for several years: new seed, however, is always to be chosen. The seeds, when taken from the stalk, adhere together like burrs, and should be rubbed between the hands with considerable force, so as to separate the

On account of their lightness, a calm time should be taken for sowing. They should be planted in drills, fifteen inches apart, and covered about an inch deep with fine earth; pressed firmly down with the broad hoe.

If small carrots are wanted late in the season, plant a row or two more, a month hence.

When the plants are come up, you should hoe the ground with a small hoe, about three inches wide, cutting down all weeds, and separating the plants four inches apart, that they may have room and acquire strength; and in eight or ten days, when the weeds again begin to appear, hoe the ground over a second time, and be careful not to leave two carrots close to each other, cutting down all weeds, and slightly stirring the ground in every place, the better to prevent the growth of weeds, and to facilitate the progress of the carrots.

In about a fortnight after, you must hoe them a third time, when you must clear the weeds as before, and now you should cut out the carrots to the distance they are to remain, which must be proportioned to the size you intend to have them grow. If they are to be drawn while young, four or five inches asunder will be sufficient; but if they are to grow large, they should be separated at least ten inches. You must yet keep them clear from weeds, which, if permitted to grow amongst the carrots, will greatly injure them.

Besides the common use to which carrots are applied in every family, they are found to make an excellent pie. For this purpose they should be well boiled, then mashed fine, and afterwaads prepared and baked like pumpkin.

Besides this, they make the best substitute for coffee yet discovered. For this purpose the roots are washed, and their external rind rubbed off. They are then cut transversely into slices, and thoroughly dried in a warm, not hot oven: next they should be coarsely broken in a mortar; then slowly roasted in an iron vessel, until quite brown; then pulverized, and drawn and served up like coffee.

BEETS,

like the two preceding articles, are biennial, and as they have all long tap roots, require nearly the same method of cultivation.—There are several varieties of this plant, which take their name from the colour, or form of the root, viz:—the red, the yellow, the white, and the turnip-shaped. They all grow best upon a light, but rich soil, of considerable depth, and which has not been recently manured. Or, if any manure is added, let it be buried at least a foot beneath the surface, so that the roots cannot reach it. Let the ground be deep spaded, and made fine as you proceed, then levelled, and smoothed with the rake.

If beets are wanted early, or are intended to be used as greens, the seed should be planted by the middle of this month, but if intended for winter consumption, the first of June is a better time.

Draw a line a foot and a half from the last carrot row, and with a small hoe make a drill about an inch deep ; here place the seeds, one every two or three inches, and draw over them a light covering of the surface-soil. The earth immediately over the seed should be pressed firmly down, as in all other planting.

If the seeds were good, there will be too many plants ; for a single seed will often bring forth a number. The supernumeraries must be early pulled up, or they wind themselves around each other, and it becomes difficult to separate them.

When the plants are two or three inches high, you will begin to pull, and use them as spinach ; taking care to do it so as to leave the plants eight or ten inches asunder ; or, if you wish them to grow as large as possible, a foot, or fourteen inches will not be too much. If there be chasms in the rows, as will sometimes happen from bad seed, or unskilful sowing, take a wet time, and fill them up with the surplus plants. But you will find these roots of less value than those which were left undisturbed; for tap-rooted plants of all kinds are never transplanted without considerable injury. The intervals between the rows should at the same time be thoroughly cleansed from weeds. The oftener this operation is performed, and the ground stirred during the course of vegetation, the larger will be the product, and the better its quality. While the plants are young, this process is indispensable, and will entirely save the necessity of watering, let the weather be ever so dry.

SALSAFY.

This root is much esteemed by some persons, and when boiled or stewed, is called the vegetable oyster. The young shoots which rise in the spring, from the plants of last year, if cut while green and tender, are good to use in the manner of asparagus.

The roots are long and tapering, of a fleshy, white substance: the herb smooth, sky-coloured, rising sometimes three or four feet high: the leaves resemble those of the leek: the flowers are of a dull purple hue, and close about noon.

This plant requires the same soil and cultivation as the carrot, and should remain where sown, for when the extreme parts of the roots are broken by transplanting, they seldom thrive well afterwards; therefore it is far the better way to make shallow drills, about a foot apart, and scatter the seeds therein ; and if the plants should come up too thick, hoe them out with the weeds, for they should not stand nearer than four or five inches of each other in the rows.

SKIRRET.

The root of this plant is composed of small fleshy tubers, joined together in one head, and are the only eatable part. They are considered wholesome and nutritive, but are too sweet for some palates. They are generally boiled and served with butter, like parsnips.

Skirrets should have the same management as salsafy. The seed should not be sown before the middle of this month, lest the plants flower the first season, when the roots would become harsh and woody. Repeated thinning and hoeing are necessary, as in the case of similar crops. When the leaves begin to decay in autumn, the tubers are fit for use, but they should not be taken up faster than they are wanted, for left out of the ground a few days, they become good for nothing.

Both skirrets and salsafy are cultivated as an agreeable variety, rather than for any peculiar excellence which they possess ; therefore are seldom found in the farmer's garden, where utility is principally consulted.

THE RADISH

is a tap-rooted annual, and the only one of the species, used as sallad. There is no root in our garden which is so difficult to cultivate and bring to perfection, as the radish ; and without perfection they are quite useless. A good radish is transparent and crisp ; and to possess these qualities, they must grow rapid, without let or annoyance of any kind ; and they are peculiarly exposed to casualties. The turnip beedle is their first enemy, always ready to wound and devour them while yet in the cotyledon leaf. If they escape these nimble marauders, unless the ground is quite to their liking, they become wirey and good for nothing ; and if their bed has been prepared in the nicest manner, our favourite roots frequently become the birth-place and food of innumerable worms, which no art of ours can prevent or remove.

Upon new ground of a suitable quality, none of these difficulties occur, and they may be grown with great facility ; but upon old ground, no method of cultivation has been yet devised, that will always insure a good crop. Here, however, with proper attention, we may generally succeed so as to have some fine roots.

The radish delights in a warm, sandy soil. In selecting a place for this plant, avoid the ground where any of the cabbage or turnip family grew the preceding year. Let the bed be bountifully manured with compost of at least a year old Let this be intimately mixed and incorporated with the soil; rake the whole fine, and sift over the surface a coat of slacked lime or ashes, one-fourth of an inch thick; then cover the whole two inches more with virgin earth from the woods. Rake this smooth and level, and immediately sow your seed broadcast; rake it lightly, and tread down every part.

Besides this radish plantation, sprinkle radish seed among your other crops, where they will often grow freely, and being detached, will form fine, tender roots. As soon as your plants appear, take care that they do not stand too thick. When the central rough leaf is fairly formed, thin them to two or three inches apart; for when young plants stand too near each other, they contract habits of running to leaf, and never afterwards bottom well.

RED PEPPERS

are much wanted for pickling. The large heart-shaped kind is most generally preferred for that purpose. The seeds germinate slowly, and should therefore be committed to the ground without delay. For this purpose make a seed bed in some warm exposure; enrich it with the best of manure; that taken from the hog-sty is the best; rake the ground fine, and sow the seed plentifully. Or you may sow the seed in drills, eighteen inches apart, and cover them about half an inch deep; but as they bear transplanting extremely well, it will be attended with less trouble to raise them in the seed bed, and, when they are two or three inches high, plant them out in some rich border, and take care that they are not injured by the neighbourhood of weeds.

PURSLAIN.

There are two species of this plant: the narrow-leaved wild purslain, which lies with its stalks upon the ground, and the broad-leaved garden purslain which grows erect, sometimes to the height of two feet, with diffused branches. The latter is a valuable pot-herb, by many esteemed before beans or peas; the young shoots and succulent leaves are the parts used, and they are boiled sufficiently in a minute. When cut off, it directly sprouts again, and may be recut several times.

It requires a rich and light soil, and as the seed is very small, attention is necessary, or you will sow too much. There is no other culture which this plant requires, but to keep it free from weeds, and if the weather is favourable, it will be fit for use in six weeks after sowing.

SORREL.

The broad-leaved garden sorrel is an early and pleasant sallad, and as it has considerable virtues as a medicine, and is succesfully used for taking stains out of linen, should have a place in every garden; particularly as it will flourish in almost any situation or soil.

It should be sown early in the spring, and afterwards transplanted into shady borders, four or five inches apart. Or it may be allowed a separate allotment, where it will grow with very little attention for many years.

BEANS.

There are two species of this plant cultivated in our gardens: the English horse-bean, and the kidney-bean. The former has several varieties, as the Windsor, Tokar, Mazagan, &c.; and the latter has varieties without number. The several kinds of English bean require a strong, rich, loamy soil, and should be planted as early in this month as it is possible to get them into the ground. Otherwise these beans will produce but little in our climate, for if the hot weather of our summers come on while they are in bloom, very few pods will set, and the crop will be poor and scanty.

As soon as the weather will permit, and the ground is sufficiently dry, make ready an open allotment, and plant the early Mazagan, Tokar, and other varieties of this bean. By planting these different sorts at the same season, you will secure a regular succession of fruit, according to their different degrees of earliness. You need be under no apprehension that the weather will injure them, as they are of a hardy nature, and will not suffer by any frost which may happen after this time of year.

Plant the small early kinds in drills, two feet apart, and four or five inches distant in the rows ; and the larger kinds three feet asunder, row from row, and about six inches from each other along the drills.

KIDNEY BEANS

are so called from their resembling in shape the kidney of an animal. They are much more sensible of cold and wet than the preceding species, and should therefore be planted later, for if they are drenched with cold rain for only a few days, they turn yellow, and are stunted irreparably, and the slightest frost destroys them. The practical gardener understands this, and never commits them to the earth until the weather becomes settled and warm, and if afterwards an unexpected cool evening should happen, he covers his favourite plants with light boards.

They are divided by nature into two classes : those which are called dwarf or bush beans, and those which run to vine, and require poles for their support. Some of them grow best upon a sandy, others upon a loamy soil. Select for cultivation the kind which experience shows best suited to our climate and soil, and which best supply the wants of your family.

It is not necessary to plant every variety you can hear of. Choose the best of each class, and let the over curious take care of the rest. For magnitude and show,

THE LIMA BEAN

stands at the head of the family. It is a native of a more southern latitude than ours, and although many of the pods become dry and fully ripe, yet the autumnal frosts which succeed our longest seasons always destroy the vines in the midst of their bearing. It requires a strong and rich soil, and is then a luxuriant plant, and copious bearer. The beans are large, and the pods, to the number of ten or twelve, are produced one after another, upon lateral spikes, like grapes. There is of this bean a red and white variety. The flowers are gay, and in colour resemble the fruit, so that when intermixed, their deep red and white flowers make a beautiful appearance. They should be put into the ground as early as the season will permit. Previous to planting, provide strong poles, eight feet long; stretch a line, and with an iron bar make holes a foot deep to receive them. The poles along the line should stand two feet from each other, and the rows four feet apart. When the poles are firmly fixed, place four or five beans in a circle about each, and cover them two inches deep, with light earth.

These beans are frequently cultivated as an ornamental flower, particularly in forming fancy hedges, and when trained near a wall or over an arch, and led up with lines of pack thread, they unite both characters, and are at once both ornamental and useful. During the month of August, they render a walk in the kitchen-garden extremely delightful; for the flowers have a powerful fragrance.

The red and white

CRANBERRY BEANS

may be planted in the same way. The rows may be somewhat nearer together, and the poles need not be so long; if they are full of branches, so much the better. All beans that run to vine, should have suitable supporters fixed in the ground before planting, that no injury may happen to their infant roots by placing them afterwards.

From the numerous variety of bush beans, select the best bearers, and those best adapted to your soil.

THE CHINA BEAN,

for its many good qualities, merits particular notice. Upon the richest land it will never run to vine, and is always more or less prolific, as the soil and tillage are good. It is earlier in the pod, and sooner ripe than any other of the species, and for every use in the kitchen, is in great esteem. Let your land be bountifully manured and well wrought, and plant these beans in hills, eighteen inches apart each way.

In general, all dwarf beans are sown in drills, about two feet asunder, three or four inches distant from each other in the lines, and covered with two inches of light soil; press down the ground lightly with the hoe, and take care that no stone or clod prevent their egress.

Beans are an important article in every family, and should abound in your garden, successively presenting their bounties.—There is perhaps no climate in the world, where the kidney-bean, with all its varieties, flourishes better or arrives to greater perfection, than in our own. It was one of the few native grains which fed the aborigines of this country before the arrival of Europeans, and to this day furnishes a moiety of their vegetable food.

SPINACH

is the only plant cultivated for culinary use, which produces the male and female flowers on different plants. There are two principal varieties, the prickly seeded, with triangular, oblong, sagittate leaves, and the smooth seeded, with round or blunt leaves. The latter has the most succulent leaves, and is preferred for summer crops. Spinach should be sown in shallow drills, about a foot apart, upon a light, dry, but rich soil. This mode is a little more labour at first, but is compensated by the ease with which the thinning, cleaning, and gathering are afterwards accomplished. When the plants are come up, the ground should be hoed to destroy the weeds, and cut out the plants where they are too close, leaving the remaining about three inches asunder; and when they are grown so large as to meet, you may then cut out a part of it to use, thinning them that they may have room to spread, until the plants stand eight or ten inches apart. Then hoe the ground again, and carefully destroy every rising weed. Let this be done in dry weather, and your spinach will flourish, and often produce foliage as large as the broad-leaved dock, and be extremely fine, making a pot-herb universally admired.

Spinach is an annual, which soon runs to seed in our hot and dry summers. Sow, therefore, as soon as possible, in this month, and again about the middle, and you will not want for this article, until the growth of young beets supplies their place.

PEAS

will grow well upon almost any good soil that is sufficiently dry, and has not lately been manured. Of this pulse the varieties are endless. The farmer should not cultivate many of them in his garden ; his principal crops will grow in the field, where, aided by the plough and harrow, the pea will flourish and produce abundantly ; and much room and labour in the garden be saved for other purposes.

Like the bean they are naturally divided into two classes : the climbers and the dwarfs.

Do not permit your desire of having peas early upon the table, to prompt the planting before the ground is suitably dry. They will certainly bear considerable frost and not be destroyed, yet if the earth is wet as well as cold, they frequently perish. As soon, however, as the ground works freely, and vegetation commences, you may prepare for an early crop of peas. For this purpose choose a south border, of dry, light earth ; raise the soil into narrow sloping ridges, about a foot broad at the bottom, and nine inches high, and at the distance of three feet from each other, ranging these in a north and south direction ; then on the easterly sides of these ridges, three or four inches from the top, make your drills, and plant the early Charlton, or other dwarfs, and cover them two inches with fine earth. In this situation they will have the advantage of the morning and mid-day sun, lie dry, and will consequently advance in vegetation much more rapidly than if sown in the ordinary way.

The climbers, as the Marrowfat, &c. may be planted somewhat later. When the allotment for these has been well dug over, rake the whole smooth and level; then stretch a line, and make a drill two inches deep; here scatter the seed, and immediately cover them with the rake. Then take some brush wood previously prepared, and stick it in the ground eight inches from the line, so as to form a double row, with the tops resting against each other. To these their tendrils will extend, and in this way they will be prevented from falling upon the ground, and the light and air having free access to all their branches, will cause them to be much more fruitful.

Seed peas are very often full of living bugs. Never plant such if to be avoided. They will propagate their kind, and most certainly infest your future crop. If, however, no other seed is to be had, immerse them in boiling water while you can leisurely count six; then instantly throw them into a basket, that the hot water may drain off. This will effectually destroy the animal, and cause no injury to the pea.

When the plants have attained the height of two or three inches, hoe the space between the rows, and draw earth about their stems; this will strengthen them much, and forward them greatly in their growth.

BROOM CORN.

Although this can scarcely be called a kitchen vegetable, yet surely there is none more or oftener wanted there; and as it requires the best of land and tillage, it should never be absent from the farmer's garden.

The border, or whatever place you may assign for broom corn, should without delay be laid up into small ridges, that it may dry and become warm by the middle of this month; then, or as soon afterwards as possible, level down the ridges, pulverize the soil, and intimately mix the manure. Then stretch the line, and with the small hoe make a furrow two inches deep; along this strew the seed with a liberal hand, and with a fine rake, cover it with light earth. Then move back your line three feet, and in this way plant whatever quantity you please.

Broom corn seed of a good quality is sometimes procured with difficulty. That only which is heavy, and of a bright shining colour, is worth planting. That which is pale and light may sometimes grow, but will never produce strong plants; and the best of seed will lose its vitality in four or five years. The seed of last year is always to be preferred, for it will come up with broader leaves, and grow much faster. Good seed will certainly come up quite too thick; but the labour of pulling out the surplus plants is trifling, and fully compensated by being able to reserve those only which appear stout and healthy.

When the plants are three inches above the ground, destroy the most feeble, and leave the best to stand four or five inches apart along the rows. At the same time hoe away all weeds that may have sprung up, and stir the soil around them. Broom corn, in its infancy, is a very feeble plant, and requires frequent and careful nursing.

GUINEA CORN

is a plant, in size and appearance very much like broom corn, and requires the same method of cultivation. The seed is fine food for poultry, and when hulled as barley, is by many esteemed superior to rice. The grain also makes an excellent substitute for chocolate. For this purpose it is first roasted and pulverized like coffee, then prepared and served up like chocolate, which it very much resembles.

SWEET CORN.

Maize or Indian corn is a grain of great value, and among the numerous and useful varieties of this plant, there is none that more deserves the farmer's notice than that which is usually called sweet corn. All the other kinds seem intended by nature for storage and winter consumption; for in a few days after the grains are fully formed, they begin to glaze, as it is termed, and then become unfit for human food, until it has passed through the mill. But the excellence of sweet corn consists in the kernels remaining so long in milk, and being at the same time extremely rich and saccharine. For several weeks it is good for boiling. It is later than many other kinds of Indian corn, and is just fit for the table when the field corn has become too hard. It should never be planted until the weather becomes settled and warm, and the land dry. Before the 20th of this month, your land intended for this grain should be made ready, and be planted in hills three feet apart. Put eight or ten grains in every hill, and place a shovel full of well rotted manure around each, and cover the whole two inches deep with fine earth.

The seed of sweet corn is more liable to injury than almost any other grain. The best kernels when dry are flat and shrivelled, and look as if they would never germinate; and should therefore always be tried before planting. For this purpose take a handful of seed, and place it in a dung-hill or hot-bed, and in a few days, if it has been well preserved, it will sprout. Never use seed more than a year if you can avoid it, for if it should grow, the plants will not be strong and vigorous.

Take particular care that no grains of any other kind are planted with your sweet corn, for a very few plants of the field corn, growing with or near it, would adulterate and spoil your crop.

Indian corn produces the male flower or farina upon the very pinnacle of the plant, and this is frequently wafted by the wind to a considerable distance, so that if you would keep any of the varieties pure and distinct, never plant them within four or five rods of each other.

As all kinds of maize require the same mode of cultivation, you cannot do better than to pursue the practice above recommended, upon your farm. The saving of manure from this mode of applying it, is a very considerable item in farming economy. Six times the quantity spread over the ground and ploughed in, will not produce the same benefit. If you would make the most of your manure, let it be piled and prepared the year before it is wanted ; at the time of planting, put a shovel full around, and in contact with the seed, but neither above nor below it. If you place the dung above the corn, the young sprouts will find it difficult to pass through ; if below, and the first part of the season should be dry, it will greatly increase the injurious effects of the drought.

Indian corn differs materially from any other grain we cultivate. It will grow advantageously, indeed it will improve, if planted several years successively upon the same land. The aborigines of this country planted it every year upon the same spot, yet their crops were good, and the same land, now under our cultivation, continues to produce corn abundantly.

Although I would not be understood as advising you never to change your corn-field, yet if you will practice as above, you will assuredly find the quality of the soil improve, the weight of the crop increase, and the expense of tillage lessen, for at least four or five years in succession.

Indian corn requires a soil naturally rich, or artificially made so. The alluvial soil, upon the banks of our streams is, of all others, the best suited to this plant; but sandy or gravelly soil will every where, if properly cultivated and bountifully manured, produce a heavy crop—sometimes more than an hundred bushels per acre. In some places upon land of this kind, gypsum is a cheap and valuable manure. Experience alone can determine its utility.

It is folly in the extreme to plant Indian corn upon clay or wet land, or upon any other, so situate as to retain the copious showers that frequently fall at this season of the year. If your land is not sufficiently dry before the end of this month, plant not at all. Better sow your land to oats, or convert it to a fallow.

POTATOES

are a perennial native plant of America, and the most valuable esculent with which we are acquainted. If we take into consideration the facility with which they are propagated, and their extensive use, there is no crop that makes a better return.

"As an article of human food," says a very eminent British writer, "potatoes are, next to wheat, of the greatest importance in the eye of a political economist. From no other crop that can be cultivated will the public derive so much food, and it admits of demonstration, that an acre of potatoes will feed double the number of people that can be fed from an acre of wheat. Potatoes are also a nourishing and healthy food, and relished by almost every palate."

Besides this, their extensive use in feeding and fattening all kinds of domestic animals, renders them peculiarly deserving the farmer's notice. The raising the principal crop of potatoes is therefore very properly consigned to the farm, while a small quarter of *earlies* alone are to be found in the garden.

As potatoes are so generally esteemed, and wanted as they are upon the table almost every day in the year, it is a laudable ambition in gardeners to have them ripe as soon as possible in the season. For this purpose many experiments have been made, the most successful of which I will detail to you:—Take an open box, and spread the bottom an inch thick with sand: take some of the best and fairest, of the earliest kind you can procure; cut them in two, leaving not more than three eyes upon each set; wet these with brine, and lay a single course of them over the sand; then cover the whole three or four inches deep with chaff: set the box upon a hot-bed or dung-hill, until they have sprung four or five inches; then take them out with the utmost care, and transplant them into some warm border of light earth. By this means the plants are forwarded twenty days in their growth. The young potatoes are fit for use in June and July, and in August the tops of the parent plants change to a yellow colour, indicating maturity. Only a few plants are taken up at once, for the young and immature tubers do not keep good beyond a day or two. It is found better, therefore, to let them remain in the ground till wanted, and in this way may be made to meet the later sort.

The best and earliest kind we have for this kind of forcing, is the Florida whites. They are a dwarfish variety, yet considerably productive, and a fine, mealy potatoe. The English whites will answer well for this purpose when no earlier kind can be found.

The later and common potatoes should be grown in the field; and I know of no method of cultivating them which better deserves your attention, than the following:

"Choose a suitable piece of ground, green sward if you please, neither too moist nor too dry; plough it in the fall, or early in the spring, harrow down the furrows, spread on a bountiful dressing of stable or barn-yard manure, cross-plough and cover the manure before it suffers an evaporation by the influence of the sun and wind, or an exhaustion by rain; harrow and cross-plough again; prepare your ground by furrowing one way for drill planting, or both ways for hills, as the surface of your field shall require. If it be clear from large stones and stumps, the drill planting is far the most profitable, because the horse-plough will be sufficient for tilling the ground, with but little use of the hand-hoe.

Let your furrows be about four feet asunder for drill planting, in order to let in a sufficiency of sunshine. Plant about the middle of May; at the same time remember that the largest potatoe will yield the greatest product, and support the stem in time of drought. Drop your potatoes at about every twelve or fourteen inches. When the weeds appear, give the ground a harrowing in the same direction with the furrows; if the weeds re-appear, harrow again, and with a single horse-plough, turn the dirt into ridges between the rows. When the stalks are of sufficient height for hilling, a short time before the potatoes set on the roots, turn the ridges to the rows, and model them suitably with the hand hoe, remembering that a flat top for the ridges is preferable, and that four inches in depth of earth is sufficient for a potatoe. After hilling, or ridging, keep down all weeds, and suffer none to gain seed."

Two or three days before planting, prepare your sets. Reject all the small and unripe tubers, and cut the others into two, three, or at most, four pieces. Those that are less than a hen's egg should not be cut at all, for you had better err in giving over large seed, than in making it too small. When the seed is properly cut, fifteen bushels will plant an acre, but this depends greatly upon the size of the potatoes used. If they are large, a greater quantity may be required, but the extra quantity will be abundantly repaid by the superiority of crop which large seed usually produces.

Although seed for an acre of potatoes costs more than for any other crop, we often see too much used. The consequence is, the tubers are small, and the quality inferior to what it otherwise would be.

If you would raise new varieties, or improve the breed of potatoes, take potatoe balls when fully ripe, separate the seed from the pulp, dry it and keep it in paper bags over winter. Early in the season sow it in drills, about a foot asunder. When the plants rise, thin them out to four or five inches apart; keep them clear of weeds, and draw the earth about the stems. In the autumn, when the tops decay, take up the small tubers, and preserve them carefully from frost. These are to be planted the next year, and their product the year after, when the potatoe will be in its perfection. They should be carefully assorted, boiled separately, their respective qualities examined, and the best preserved for seed. In this way new varieties of this valuable root are always to be procured, to supply the place of old ones degenerated by age.

THE GOURD.

This is a very numerous and important family. They are all natives of a more southern latitude than ours, but with proper management, will flourish in the open grounds of our gardens.

All-bounteous nature has divided them into several species, and these again are subdivided into a great number of varieties.

They all require a warm, rich soil, and the whole length of our summers, or they do not ripen to perfection. Yet they must not be planted before the weather has become steadily warm, otherwise the seeds will perish in the ground, or if they germinate, the plants are sallow, and with the greatest care can seldom be made to bear fruit so soon as those which are later planted. The almost daily use of the

CUCUMBER,

at our tables, places it very justly at the head of the gourd genera, and there is no other that will thrive so well by artificial heat; so that if you are ambitious of having them very early, you have only to prepare a hot-bed, give them suitable attention, and they will come at any season you please. The simple method directed by Mr. Armstrong for this purpose, well deserves imitation. He says—"scoop as many large turnips as you propose to have *hills;* fill these with good garden mould; sow in each three or four seeds, and plunge them into a hot-bed; here they should remain until about the middle of May; then transfer them to the beds where they are to stand. The advantage of the hollow turnip as a seed bed, over pots or vases, will be evident; for instead of the ordinary difficulty of separating the mass of earth and the plants from the pot which contained them, without injury to either, you re-enter both pot and plant, and even find in the one an addition of nutriment for the other. The subsequent treatment does not differ at all from that of plants sown and cultivated in the open air. There are many varieties of the cucumber, varying in size, shape, and colour of their fruit. The dwarf Bouquet is the earliest with which we are acquainted, and is well suited for the frame or hot-bed cultivation. Your general plantation of cucumbers should not be made till next month, when we will furnish directions for that work.

THE MELON.

This genus of the gourd has two distinct varieties, the musk and water melon; and each of these several sub-varieties. The ground intended for this plant should have a free exposure to the east and to the south. The soil should be sandy, and highly manured wtih compost, prepared a year, at least, before it is used. It should be early dug over, made fine, and laid up in small ridges, that it may warm, and become fertilized with the sun and air. About the middle of this month, let the whole plantation be levelled. Then open parallel furrows, a spade deep, and six feet apart; fill these with old compost; cover this with earth taken from between the rows, so as to form ridglets six inches high; make the tops of these a little flat, and here immediately cover the seeds two inches deep. *Remember, as in all other planting, to press down the dirt above the seed.*

The method recommended by the American Gardener is certainly a good one. He says, "Prepare a piece of rich sandy ground, well exposed to the sun; manure it and give it a good digging; then mark it out into squares of six feet every way; at the angle of every square, dig a hole twelve inches deep, and eighteen over, into which put seven or eight inches deep of old hot-bed dung, or very rotten manure; throw thereon about four inches of earth, and mix the dung and earth well with the spade; after which draw the remainder of the earth over the mixture, so as to form a round hill, about a foot broad at the top.

"When you rhills are all prepared as above, plant in each, towards the centre, eight or nine grains of good melon seed, distant two inches from one another, and cover them about half an inch deep.

"When the plants are up, and in a state of forwardness, producing their rough leaves, they must be thinned to two or three in each hill; the extra number in some may serve to fill up deficiences in others. Draw earth from time to time around the hills, and as high about the roots of the plants as the seed leaves; after which, keep the ground, by frequent hoeings, perfectly free from weeds."

It sometimes happens, after we have taken the utmost pains, and our vines for a while look flourishing and healthy, that they cease to grow, then droop, turn yellow, and die. Upon pulling up the diseased plant, we find the root, and often the lower part of the stalk, perforated with a number of white worms, similar to those which infest and destroy the radish. To prevent this misfortune, for there is no cure, take the rubbish of old buildings—I mean the lime mortar found between the bricks and stones when old houses are taken down—let this be intimately mixed with the earth in which the seeds are sown, and sow the whole plantation broadcast with sea salt, at the rate of a pint to every rod square. Or, what is perhaps a more effectual preventive against these subterraneous enemies, take a bushel of dry virgin earth from the woods ; lay it upon the surface of the ground, in the place intended for a hill ; then with a hoe draw the neighbouring dirt around, *not over* it ; make the top of the hill flat, or a little dishing, and here in the new ground, plant the seed as above directed.

In the choice of melon seed be extremely careful ; for the whole success of your labour depends upon it. You should annually exchange your seeds, and not continue to save and plant the same for several years in the same ground, for they will certainly degenerate. Purchase your seed, therefore, from a distance, and if possible, from the south. As a general rule, the largest variety of melons are the least valuable ; select your seed, therefore, from the smallest kinds ; for these, other things equal, are the highest flavoured, and will best reward the extraordinary care necessary in their cultivation.

The dwarf water melon has seeds resembling those of an apple, will ripen in any part of this state, and is a most delicious fruit; and among the many varieties of the muskmelon, the small Canteloup, and round Nutmeg, merit particular notice.

If the weather should be dry before the vines have covered the ground, pulverize the earth, and repeat the hoeings; but never attempt to water them, for although you might augment the quantity, it would be certain to deteriorate the quality of the fruit.

THE SQUASH

is another valuable branch of the gourd family, and has many ramifications.

They are usually divided into summer and winter squashes. The former are used only in the unripe state, and should be plucked from the vine every day, as wanted, before, or soon after they have attained their full size, and while the thumb nail will easily enter the rind; otherwise they soon become hard, dry, and useless.

The golden squash is an excellent variety of this kind, and is welcomed in every kitchen. If the fruit is carefully picked off in season, the vines will flourish, and continue to bear, until destroyed by frost. A few only of the first should be preserved for seed; for if you permit many to ripen, the plants are soon exhausted, and the golden shower ceases.

The winter squashes should never be gathered until some time after the frost has killed the vines. Before winter, however, a supply for the family, of the ripest and fairest should be selected and stowed away with chaff, or fine straw, and kept in some dry place, as cold as possible and not freeze; while the remainder are fed to the cows.

To this class belongs the small Dutch squash. It is a great bearer, yet never runs to vine. The fruit is solid and rich, and will keep well till new-year.

The acorn-squash is another of the winter variety, and the most rampant of the tribe. From a single plant, more than five hundred feet of vine will sometimes proceed. The fruit is large, has a fine yellow meat, and is remarkably heavy, and full of seeds. It may be kept a long time, and makes the best of pies.

THE PUMPKIN

is a near relative of the squash, and from its great propensity to intermarry with all the varieties of that tribe, must never be planted in the garden; but should be consigned to the field, where, between the ranks of Indian corn, it will often produce an abundant harvest with little expense; for both the pumpkin and squash are less nice with regard to soil, than the cucumber and melon, and will flourish in any good ground, well wrought.

THE CALABASH, OR GOURD,

is another variety of the cucurbata family. There are several large and small kinds of this plant; all cultivated for their shells alone, which are much used in the kitchen, for dippers, &c. The plants should be forwarded like the early cucumber, and afterwards removed to a warm, rich border, where they can be furnished with a grate, or other suitable support.

MUSTARD

will grow in any good soil, and with little labour. When the ground is well ploughed, level the surface, and sow the seed broadcast, and rake it in. When the plants are a few inches high, thin them so as to stand about six inches apart, and destroy the weeds with a hoe; for, like every thing else, if they are left too thick, they draw up weak, and the seeds are never so large or good. If the weeds should grow again before the plants have strength to bear them down, they must be hoed a second time; after which they will require no further care, until the seeds are ripe.

In many gardens mustard is raised as a substitute for spinach. The tops of the plants are then cut off, before they flower or run to seed, and make an excellent green.

I am, &c.

P. AGRICOLA.

JUNE.

MY DEAR SON,

IN the philosophic schools of antiquity, some of the great masters assembled their pupils in a garden, and there unfolded to them the arcana of nature. And where could they have selected a spot, better calculated for the purpose of impressing upon the youthful mind the lessons of wisdom, while their bodies were invigorated by exercise, and their senses regaled with beauty and with fragrance. It is not only the laws of vegetable life, which are here successfully taught, but entomology, or the science of insects, is a study no where pursued with more advantage, than in the umbrageous walks of a garden. Many tribes of these creatures here have their birth-place and their food. Their wants and appetites are like our own; they grow, and delight to feed upon those very plants we cultivate for our own food; and unless we can destroy them, or divert their attention, the whole crop is often devoured.

It is therefore the peculiar interest of the farmer to study attentively the nature of these animals. He should learn, if possible, the time and place of their hatching ; know at what season they are most voracious, and when they usually retire, or change their state.

I shall not detain you with a technical classification of these insects, for I know of no practical benefit you could derive from it : nor shall I turn over the pages of Linnæus, to discover by what appellation he has distinguished European insects, that bear some resemblance to ours. Their common name, with such description as may enable you to know them at sight, is all that a gardener requires.

Insects are usually divided, by naturalists, into two kinds : those which are immediately or remotely beneficial or injurious to mankind. But I can see no justice or propriety in this distinction. Like all other classes of animals, there may be some among them that are occasionally hurtful to some of us ; but I cannot think of a single tribe which do not, directly or indirectly, contribute to the wants or luxuries of man.

It is true, the depredation of insects upon vegetable bodies are often detrimental ; but it should be remembered that in these ravages, they usually repay the injuries they commit.

The locusts, the most destructive of all insects, are not unproductive of advantage. Although, like the ox, they deprive man of a certain portion of his vegetable food, yet, in return, their bodies afford nutriment of a salutary and palatable kind. Travellers affirm, that the various species of locusts are the common food on which the inhabitants of many parts of the world subsist at particular seasons, and that in all the towns upon the Levant, they are salted, and constantly exposed to sale as provisions, like Scotch herring in our groceries.

The grasshoppers, by far the most voracious of all the insects of this country, are seldom so numerous as to injure our crops. In many years we should rejoice if they were more plenty, for although we do not feed directly upon them, as the inhabitants of the east do upon the locusts, yet our poultry do. The grasshopper, and other insects, appear to be their natural and favourite food ; they hunt them without intermission, seize them with avidity, and riot and fatten upon their flesh. And in this indirect way, are brought upon our tables, and furnish a luxurious feast.

The Hessian fly, which, thirty years ago, despoiled our wheat fields, and threatened to be the "*minister of famine*," has, in the event, added much to the produce and riches of the state. By them we were taught the great advantage of changing seed, and the benefits of an improved method of tillage. And in addition to this, during the scarcity, or temporary absence of the wheaten loaf, we have discovered in the buckwheat cake, more than a substitute; for it still continues to keep its place upon our tables for several months in the year, although the cause that introduced it has long since disappeared. And those parasitical insects that fret and goad the human skin, are evidently intended by the wise Author of our nature, to teach the salutary virtues of care and cleanliness, or punish us for the neglect. And if we divest ourselves of prejudice, and go into the garden, we shall find very few of the insects which inhabit there. which were not designed by Him who "*planted*" the first garden, for beneficial purposes. The common earth-worm stirs up and loosens the soil, and thus enables the feeble roots of young plants to pass freely in their quest of food. The various species of grubs teach us the advantage of ridging, and exposing our lands to the winter's frost;—while a thousand other insects are constantly employed in the business of fructification. Some carefully watch the opening of the flower buds, that they may convey the fertilizing pollen of one to the other; some move incessantly their silken fingers across the swelling stigma, excite their loves, and "*replenish the earth*," while others collect the wax, and superfluous nectar, and store them for our use.

Great and numerous as the benefits are which we derive from this class of animals, it will not be contended but that their number sometimes exceeds their usual bounds, when we feel more or less inconvenience. But it more frequently happens that the evils we experience from insects, originate from our own folly or negligence; evils which skill and vigilance would most certainly prevent; for instance, the various grubs and wire worms are the offspring of grasshoppers, and other winged parents. These deposit their larvæ in grass ground, where the young ones feed upon the roots, as the old ones had done upon the blades. Whenever, therefore, you break up sward land for a spring crop, remember these subterraneous feeders. As you have destroyed their natural stores, they must now feed upon your plants or perish. Fall ploughing will do much towards lessening their numbers; but in some instances, enough will escape to injure materially, the sprouts of Indian corn and many other plants in your garden; but I never knew them hurt potatoes, beets or carrots, or do much damage to a crop of oats. Whenever you have reason to fear these insects in your flax ground or garden, sow the land with fine salt, broadcast, at the rate of two bushels to the acre. This will effectually destroy them, and as a manure, will more than repay the cost.

The *melon-bug* is another insect with which I would wish you to be particularly acquainted; for the intelligent gardener never suffers the least inconvenience from them. This bug is about the size and shape of a grain of wheat. From the neck backward, it is neatly covered with an oval shining case or shell; this is divided longitudinally into two parts, and the same way, alternately striped with black and yellow, and are fastened with a hinge, near the lower part of the neck, just so as to shade the thorax. When the insect attempts to fly, this shell divides, and stands erect at right angles with the body. Immediately under, there is a pair of large, dark gauze wings, which are expanded with reluctance, and never used but in cases of absolute necessity. These wings are three times as large as the external tunic, yet when the animal alights, they are instantly folded, and nicely secured from injury, and from sight.

The head of this insect is short and black; the antennæ, which originate between the eyes, are of the same colour, long and curved at the extremities. The neck is yellow. It has three pair of legs, or rather two pair of legs, and one of arms. The thighs, or upper extremities, with the legs, are of a light yellow, while the knees and feet are of a shining black, like the thorax and abdomen. The back, or upper part of the body, is transversely striped with black and yellow.

The gourd family, with all its varieties, is the peculiar food of these animals. Melons, pumpkins, cucumbers, &c. all alike suffer from their attack. They seldom make their appearance until the middle of May, when they are extremely voracious. Their hunger sometimes continues until the solstice, when their appetites and numbers decline. From this time all their injury ceases, and they even seem desirous of repaying any damage they may have occasioned, by assiduously passing from one flower to another, conveying at every visit, the prolific pollen. All this class of plants, (cucurbita) produce the male and female flowers distinct, and on different parts of the vine, and as they secrete no honey, bees and other insects might neglect to perform this necessary work; for honey is evidently a vegetable secretion, of little or no use to the plant from whence it is formed; but being emitted by flowers at this time, serves to allure, and to reward insects for this important service. The gaudy painting, and odoriferous fragrance of flowers, are also the means of promoting and securing the completion of the same indispensable object.

The sagacity of the melon-bug in providing for its own personal safety, is exceeded by no other animal. While feeding upon our young and favorite plants, they even seem to foresee and expect danger; for in the morning, when the watchful gardener is seen coming to punish their depredations, they instantly quit their repast, and with all possible haste bury themselves in the earth, or hide beneath some clod or stone. If they have not time for this, they throw themselves upon their backs, and in this way conceal their shining envelope, and endeavour to deceive or evade our sight, by appearing like the ground upon which they lie. Here they continue without motion, and apparently lifeless, until all danger is past. But if they are disturbed after the sun has dried up the dew, and gave pliancy to their limbs, it is only the most feeble that have recourse to this stratagem. The strongest amongst them unfold their armour, expand their wings, and in a moment are out of sight.

They always deposit their larvæ in the vicinity of their favorite plants. Of course their numbers multiply annually, while you continue to plant their vines upon the same ground. Their destructive teeth are confined to the seed leaf only. As soon as the centre or rough leaf expands, their injury ceases, and they seek to supply their wants with younger plants.

From this account of the insect, I think you will easily suggest effectual means to prevent all the mischief in their power to do. The numerous recipes which are every day published for this object, only serve to mislead and deceive. One extols the virtues of elder leaves, another affirms that snuff or sulphur will affright them all from the garden, while a third advises to catch them with a woollen net. But this is all mere quackery, and must end in disappointment. If you have it in your power to select for these plants a new spot of ground every year, that alone will save them from the ravages of this insect, and they will come only as friends at the time of flowering. Or, if you plant *after* the 20th of this month, the feeding season of the insect will be past before your plants are up, and they will not interrupt you any where. But if you are desirous of having fruit from these plants as early as the weather will permit, and yet cannot conveniently change the situation, you may certainly avoid all injury from these insects, by sowing the adjoining ground with seed in abundance. This profuse seeding should be done at the time of planting, and at later periods, that the insect may always find young and juicy leaves whereon to feed. It matters but little what kind of seed you make use of for this purpose. They are indifferently fond of the whole gourd family ; or if they have any preference, it is for the acorn squash, which has a very large and succulent seed leaf. If you plant liberally of these seeds, near your cucumbers and melons, the insect will accept the bribe, and spare the choicer plants. But if these precautions are neglected, and your plants are attacked by the insects as soon as they appear above ground, take dry ashes, and bury them half an inch deep ; this will not impede their growth, but will effectually protect them for several days.

Of all the insect tribes that infest or frequent our fields or gardens, the turnip-fly is the most mischievous. This is a small animal, of a dark colour, and much resembles the common flea, and like them, hops or jumps, whenever it moves. This insect delights to feed upon all the varieties of the cabbage family. It is best pleased with this plant when in its cotyledon leaf; but in the absence of other food, will devour the plant at any age. It appears very early in the spring, which has led some persons to suppose that it is the same insect which we often see hopping upon the snow, in the coldest part of the winter. They usually continue to feed with avidity, until August, and during all this time their gluttony is without bounds; for they require daily, of green vegetables, a quantity much greater than that of their whole body. But notwithstanding their insatiable appetites, there are not many years when their numbers are so great as to be materially injurious to the vigilant and skilful gardener; and it is equally true, there are not many years when they are not injurious to the garden where these virtues are wanting. The young farmer who has not been suitably instructed, early in the spring finds all his cabbage plants destroyed; with much inconvenience he then procures some from his more skilful neighbour, and sets them out, elate with hope; but the fell destroyer is always near; the hungry insect marks them for his own, and while the plants are suffering under the injury of removal, the leaves are bored through with a thousand holes, and straightway all their health and beauty fades. It is in vain he sprinkles them with lime or ashes, or drives them off with elder leaves; they prey upon the under side of the leaf, where the ashes do not come, and although frequently disturbed and affrighted with the elder bush, they as often return, until the plants, exhausted with their wounds, shrivel and perish altogether.

These are incidents which the experienced gardener expects; he is prepared for them, and meets them with success. First, his cabbage seed is sown upon new ground, just burnt over, or in some vessel, raised from the earth, above the flight of these insects; in either of these ways he is sure to have plants in abundance. In the next place he takes care that his cabbage plantation is rich, that the soil is intimately mixed with the manure, and at the time of setting the plants, he sows the whole, broadcast and thick, with cabbage, turnip, radish, or any other seed of that family. When they come up and show their seed leaf, they are more sweet, tender and palatable to these feeders, and the larger plants obtain, by that means, a respite. Besides all this, you ought so set in every hill, one or two extra plants, and if they are not destroyed after three or four weeks, and h fore they crowd each other, take out those that appear the least promising.

Sometimes the roots of cabbage swell into numerous knotty tubercles, which impoverish the tops of the plants, and prevent their heading. This is caused by worms, hatched in those places; and there is no mode of destroying them without destroying the plants, which you had better do, for they can never be good for any thing. But although this misfortune can never be cured, it may very certainly be prevented, *by changing annually your cabbage plantation*; for these stubborn foes never appear where some of the cabbage family have not grown the preceding year.

Sometimes a myriad of green parasites or lice, spread over many of your plants while the heads are forming. This is occasioned by their slow growth, and is to be prevented by every thing that accelerates or hastens their progress. If, notwithstanding, some of your plants should be over-run with these vermin, pull them up. It is better to lose them entirely, than to run the risk of their spreading over your whole plantation.

The grub and cut worm are also very destructive enemies to the cabbage plant when first removed from the seed bed. They commit all their depredations in the night, when they creep out of their subterraneous lodgings, and having found your plants, cut them off, as with a scythe. In the morning they may be found, near where the plant stood, just buried beneath the surface of the ground. They suould be early pursued, and every one put to death; and as their number is never great, this and frequent hoeing will soon put an end to their ravages.

The pea-bug is another troublesome insect, with which you ought to be intimately acquainted. It is the progeny of a small fly, metamorphosed from the bug, planted in the pea. These flies are astonishingly prolific, and carefully deposit their eggs in the young globules, by perforations through the green and tender pods. The wounds occasioned by these punctures are visible after the pods have attained their full size. Before the pea ripens, the insect hatches and acquires its crysal state; it is then converted into a dirt-coloured, active bug, and in that and its previous state, feeds upon the cotyledon, or substance of the grain. Here they are entombed, unable to remove the hard external covering of the pea, until planted, or otherwise warmed and moistened; they then burst their natal prison, and become an aerial inhabitant. Here they find their mates, and by the time the pods and young peas are formed, they have become pregnant, and are now waiting for their only place of deposit; for it is not known that their larvæ will hatch, or that they can propagate in any other place; for they are never seen in any district country newly cleared, or in any other where the pea is not cultivated. Although a very large portion of the pea is destroyed and occupied by these bugs, yet many of them will germinate, and produce healthy stalks. But you should be extremely cautious never to plant or sow any that contain this internal enemy; and indeed if your unwise neighbours do so, you will be sure to share with them the misfortune.

The true method to avoid their depredations is to plant none but the best of seed, and let that be done as early as the season will permit. Peas always succeed best when sown early; but if you plant good seed as late as June, before the pods are grown, the parent fly will be extinct, and the small crop you may raise will not contain the insect.

It is natural for these insects, like many others, to remain dormant through the winter. At the returning warmth of spring, they wake, and must be liberated, or they perish. This fact may suggest to you an effectual method of destroying the whole race. Let us agree never to use peas for seed until they are at least two years old, and this bug must disappear; for in truth we plant and raise them from the seed, and then complain of the crop. So Cadmus sowed his field with serpents' teeth, and raised from thence a host of armed foes.

There is another insect resembling the

pea-bug in several particulars, to which I would wish to draw your attention. It is not many years since the plum trees in this country were healthy and flourishing, and the fruit universally rich and delicate. The best of peaches we never could raise, but the variety and excellence of our plums were unrivalled, and we fondly imagined that our climate and soil were peculiarly suited to this species of fruit. But of late our plum trees have declined; the canker, as it is called, has overspread, and nearly destroyed the whole.

This misfortune gradually approached us from the south, where we heard of its destructive effects long before we saw it in our own trees. At the period above referred to, this country produced the pea in the greatest abundance, and of a superior quality, and it has been remarked, that the bug so fatal to them migrated to us from the same quarter, and about the same time with the disorder in our plum trees; and if the knotty excrescences of the latter are examined while in their green and recent state, they will each of them be found to inclose an embryo chrysalis, in every respect similar to that which the impregnated pea contains. This insect wounds, and feeds upon the alburnum of the tree, and by a spontaneous effort of nature, an extra quantity of woody matter is then thrown out, to heal the injury; so when animal bodies are wounded, new vessels are directly formed, and fungus flesh springs up to heal, and restore the continuity of the parts. As the insect grows, the nibbling and irritation increases, until at length all the energies of the tree are here expended. And when the feeding state of the animalcula is past, it makes a hole through this spongy matter, takes to itself wings, and escapes. The irritation then ceases, and the cankerous secretion dies, and hardens with the sun; but so numerous are these attacks, that the vitality of the tree is enfeebled, and all its energies wasted. Many of the branches are quite surrounded with these dry excrescences, and all communication from the trunk to the extremities entirely cut off. Meanwhile the insect, having arrived to its ultimate state, prepares for the continuation of its species, and again deposits its eggs, through the tender bark of the remaining live shoots; where they rest until the warmth of the next spring calls them into life. These places then begin to swell, and new warts are produced; so that in this way, two or three years only are sufficient to destroy every tree in the neighbourhood.

All the varieties of the plum are more or less affected by them, and the black cherries are equally liable to their attack; but the red cherry, although standing near the other, escapes unhurt. So beans, of all kinds, and some of the large varieties of the pea, are exempt from the bug.

It may be difficult to assign a satisfactory reason for this discrimination. Our progress in the science of insects is yet too limited; but, being apprised of the fact, we should regulate our concerns accordingly. The cause may lie in the special appetency or organization of the parent, or perhaps other trees will not give life to their eggs, although deposited in them. We know every vegetable has its local and appropriate insect, to which it gives food or nidus, and that those diminutive beings, guided by the unerring laws of instinct, perform operations truly surprising.

The study of entomology is principally useful, as it discovers the habits of insects, and leads to a practical method of avoiding the injuries which they so often occasion; and in the case before us, experience has furnished ample means of defence. It is only necessary that its precautions should be every where attended to, and those troublesome visitors would disappear at once.

First, examine with the utmost care all your plum and black cherry trees. If you find only a few of these protuberances scattered about the limbs, dissect them off. Amputation is the only possible remedy to save the residue, and this should be done before the warts become blackened, for then the fly has escaped, and will most certainly puncture your trees again.

But if you find the affection has become general, and that the animal has got possession of the important branches, cut down the tree without delay, and supply its place with another. Let no hope of having a little more fruit prompt you to spare a tree thus circumstanced, or to save a limb upon which one of these knots are fastened; for remember that each of them contains a worm, which in a few days will change into a fly, and in that state may sting your trees in a thousand places, from whence, in another year, will issue as many enemies, armed with the power of inflicting a mortal wound upon all your favourite trees. In this warfare you must enlist your neighbours; explain to them your mutual danger, and show them the necessity of uniting against the common foe; this done, your means of defence are easy, and your triumph certain.

There is another insect, equally fatal to the plum, and all the varieties of smooth skinned stone fruit. This insect resembles the one last noticed, in several particulars. It injures and destroys the fruit, as the other does the tree, by its mode of propagation; and like them is found only in districts which have been long cultivated. Early in the spring, as soon as the returning warmth gives life to the trees, these destroyers creep from the ground about their roots, crawl up their trunks, and spread themselves about the branches, ready for the work of destruction. As the fruit advances, they puncture the rind with their pointed rostra, and deposit their eggs in the wounds thus made. This nit soon becomes a worm, and begins to feed upon the recent pulp, until, in most cases, the fruit dies and falls off. The insect then, no longer in want of food, gnaws its way through the skin, and migrates to the earth, where it remains in the form of a grub during winter, ready to be changed into a bug, as the season advances. Thus every tree furnishes tenants sufficient to devour its own fruit. Fortunately, however, the devastation of this enemy is prevented by a practice, in itself greatly useful to the trees. Remove the earth to the depth of three or four inches around every tree, and as far from the trunks as the branches extend; cover the ground thus excavated with house ashes or slacked lime, and fill the cavity with pounded slate, or coarse gravel. Let the whole be beat down smooth and level, or rather a little dishing, that the rain may descend towards the trees.

Dr. Hilton, in a very judicious treatise upon this subject, remarks,

"There is no surer protection against this insect, (curculio) than a pavement; this however is only applicable to a few trees. It may serve in town, but will not answer in the country: flat stones may however be placed round the tree, and where lime is at hand, they may be cemented."

"Many other expedients, such as smoaking, brushing, watering, &c. may be successfully employed for the protection of a favourite tree or two, but it is manifest, from the preceding history, that a right disposition of stock, especially hogs, among the fruit trees; can only be relied upon by a farmer with orchards of considerable extent. And that the stock, poultry, &c. may perform the task assigned them, it is evident that a proper disposition of fruit trees is essentially necessary."

As the smooth stone fruits are the grand nurseries of the curculio, special care should be taken to have them effectually protected. Unless this can be done, a farmer should not suffer them to grow on his plantation. He will derive no benefit from them, and they will furnish a destructive vermin that will ruin his other fruit. Cherry trees, nectarines, plumbs, apricots, &c. should therefore be planted *in lanes* and *hard beaten yards*, or paved yards, the common highway of all the stock of the farm, and not beyond the range of the ordinary domestic fowls. Orchards of Apple trees, pear trees, peach trees, &c. should all be in one enclosure. The pear trees and peach trees, may occupy corners of the whole design, so as occasionally to be fenced off. In large orchards, care should be taken that the stock of hogs is sufficient to eat up all the early fruit which fall, from May until August. This precaution will be more especially necessary in large peach orchards, for otherwise, when the hogs become cloyed with the pulp of the peach, they will let it fall out of their mouths, and content themselves with the kernel, which they like better; and thus the curculio escaping from their jaws, may hide under ground until next spring. Solitary trees of one fruit or another remote from the orchard, should be regarded as nurseries of the curculio, and ought to be cut down or removed to the common enclosure. A young orchard should not be planted in the place of, or adjacent to, an old one, that it may not be immediately infested with the curculio.

It is also apparent from what has been said, that great advantages might result from an association or combination of the whole neighborhood against the common enemy. Although an intelligent farmer may accomplish much, by due care within his own territory, the total extermination of the curculio can hardly be expected, but by the concurrent efforts of whole districts.

In addition to this, the peach tree of late has been attacked by another of the insect tribe, which seems to threaten universal ruin.

In the transactions of the American Philosophical Society, Mr. Ellis, of New-Jersey, with great judgment, has explained the nature of the insect, and pointed out a cheap and effectual preventive against their ravages. His remarks merit attention, and I shall extract them for your use.

"The decay of peach trees is owing to a worm, which originates from a large fly, that resembles the common wasp; this fly perforates the bark, and deposits an egg in the moist or sappy part of it. The most common place of perforation is at the surface of the earth; and as soon as the worm is able to move, it descends into the earth, probably from an instinctive effort to avoid the winter's frost. This may be ascertained by observation; the tract of the worm from the seat of the egg being visible at its beginning, and gradually increasing in correspondence with the increasing size of the worm, its course is always downward. The progress of the young worm is extremely slow; and if the egg is deposited at any considerable distance above the surface of the earth, it is long before the worm reaches the ground. The worms are unable to bear the cold of winter, unless covered by the earth, and all that are above ground after frost are killed.

"By this history of the origin, progress and nature of the insect, we can explain the effects of my method, which is as follows:— In the spring, when the blossoms are out, clear away the dirt so as to expose the roots of the tree, to the depth of three inches; surround the tree with straw, about three feet long, applied lengthwise, so that it may have a covering one inch thick, which extends to the bottom of the hole, the but-ends of the straw resting upon the ground at the bottom. Bind this straw round the tree with three bands, one near the top, one at the middle, and the third at the surface of the earth; then fill up the hole at the root with earth, and press it closely round the straw. When the white frosts appear, the straw should be removed, and the tree should remain uncovered until the blossoms put out in the spring.

"By this process the fly is prevented from depositing its egg within three feet of the root; and although it may place the egg above that distance, the worm travels so slow that it cannot reach the ground before frost, and therefore is killed before it is able to injure the tree." (For it is in the second year of its existence that it performs its deadly operations.)

"The truth of the principle is proved by the following fact: I practiced this method with a large number of peach trees, and they flourished remarkably, without any appearance of injury from the worm, for several years. I was then induced to discontinue the straw with about twenty of them. *All those which are without the straw have declin* *ed; while the others which have had the straw, continue as vigorous as ever.*"

Thus you see every species of insects may be considered as subservient to our use, either by directly contributing to our wants, or indirectly, by the advantageous lesson which they teach.

I have detained you among the "creeping things" longer, I fear, than you will think it agreeable; but the importance, if not the magnitude of the subject, seemed to require it. We will now return to our vegetable tenants, and see what more we can do for their prosperity.

CUCUMBERS

are the natives of a much warmer climate than ours, yet with a skillful attention may here be cultivated with success. The ground designed for this plant should be warm, and rich, and fully exposed to the sun. The plantation should be made ready as soon as the ground is sufficiently dry. First lay a ridge of old dung a foot high, and as long as you please, then with the spade cover it with the adjoining earth; when it has laid a few days to warm and dry, mix the whole well together, and lay it up again in the same manner. In this way the oftener you can move and mix it, the better.

The first week in this month is as soon as you can plant cucumbers in the open ground to advantage; and you should continue to plant more or less every two or three days, until the same time in July.

When the weather appears steadily warm, work over the ridglets, and let the tops be a little flatened. Here strew your seeds with a liberal hand, and cover them with light earth, an inch or more deep; press down the dirt with your hoe, and the work of planting is done. Let the ridges be six feet apart. When the plants are up and have produced their rough leaves, take out the weakest of them, and draw fine earth from time to time around the stem of the remainder, as high as the seed leaves.

The superfluous plants must on no account be permitted to crowd, or even to touch each other, before they lie down for vining. It is a common error to spare too many plants. One good plant for every yard square, is amply sufficient, two or three may be left until they begin to cover the ground, when the poorest should be removed. If your vines are too thick, they will not bear well, and the little they do produce, will be watery and insipid. Great care must be taken that weeds live no where in the vicinity of cucumbers, for they want all the air, all the sun, and all the moisture and enriching qualities of the soil, exclusively to themselves.

When the plants have got the second rough leaf they should be topped, as it is technically called. This operation consists in pinching off the runner bud or eye, when the end of the shoot is not larger than a pea. By this simple process a stronger and more compact growth is promoted, and the emission of fruitful lateral runners is increased. When your first vines are very luxuriant, and have already obtained several joints, without shewing the embryo fruit, let them be again topped; by this means you will cause them to bear earlier, and more abundantly.

Take care to use good seed; that which is three or four years old, should be preferred, for the vines will run less, and bear more.

There are many varieties of this plant, and if you would raise them unmixed, they must not grow near together. The bees, the melon-bug, and other insects, will convey the pollen, and you will have a bastard progeny. I would advise, when you have a kind that you approve, to preserve the seed, and afterwards plant no other. The small, prickly green cucumber, is on the whole, the best for kitchen use; it bears plentifully, and if planted at different times, will furnish your table with a succession of green fruit from the middle of July, until the autumnal frost, and if taken off when small, they make the best of pickles.

N. B. Cucumbers never require watering; If the ground and weather is dry, hoe frequently and make the earth fine about the hills.

ONIONS,

yet in their infancy, require repeated nursing. Take your small sharp hoe, and stir the ground between the rows, as near the plants as possible. Then with a table fork, loosen the remainder of the soil, and with the hand pull out every weed. If the onions stand too thick, reduce the number without delay, before they crowd and embarrass each other. Too many plants are as fatal to a good crop as weeds, and the skilful gardener will destroy them in season, and without regret. One plant every two inches along the row is quite enough.

BEETS.

Weed your early sown beets; stir all the ground between the rows; pull up the supernumerary plants, of which there will be a great many if your seed was good; spare the strongest. One every six inches along the drill is sufficient. The extra plants make very fine greens, and at this season should be liberally drawn, before they injure the crop. Continue to sow more seed, if you wish a full and abundant supply of this excellent vegetable.

"CARROTS AND PARSNIPS

will now be advancing fast in their growth, and should be properly encouraged. Clear them from weeds, and thin them out to due distances.

"This work may be done either by the hand or hoe; but, for extensive crops particularly, small hoeing is the preferable method, as being the most expeditious, and by loosening the surface of the ground with the hoe, it will greatly promote the free growth of the plants.

"Whatever method is pursued, it will be necessary to free the plants from weeds, and to thin them to proper distances, that they may have full liberty to grow and enlarge their roots. The general crop of carrots should be thinned to about six or seven inches, plant from plant, and the parsnips to from eight to ten, in order that each kind should attain its utmost perfection.

"Such crops of carrots, however, as are intended to be drawn gradually for the table while young, need not be thinned at first to more than four or five inches distance, as the frequent pulling up of some for table use, will in a little time afford the others sufficient room to grow large. But the main crop should be thinned at once to the proper distances."

BROOM CORN

now wants weeding. Take the large hoe, and loosen the ground around the plants ; pull out the small and feeble stalks, until the number does not exceed one in every ten inches along the row. If you have a greater number, the broom will be short and useless in proportion. Draw a little fine dirt around the stalks, and set them upright. This operation should be performed every ten days during the month.

CABBAGE

requires frequent hoeing and stirring the ground. If drought prevails, nothing can do away its impoverishing effects like repeated moving and pulverizing the soil, and if showers are frequent, the hoe must be used to keep the ground light and yielding. Continue to set out new plants whenever the weather will permit.

BEANS

that were planted early, have already four or five leaves. The ground around them should be stirred with the broad hoe, and a little fine earth brought up about the roots ; but remember never to work among beans when wet with dew or rain.

PEPPERS

demand your notice. Take care that they are not shaded with weeds, and that they do not stand too near, and in that way injure each other. When they attain maturity they have considerable branches. The plants should not stand within ten inches of each other, if you would have large and handsome fruit.

SWEET CORN

wants assistance. When quite small, let all the ground be stirred with the plough or hoe. Eradicate every weed; turn over every turf, and bring up a little fine earth about the roots of the plants. If the seed planted was all good, you will have too many stalks; remove the smallest without delay; four or five are sufficient for each hill.

LETTUCE

should be transplanted in moist or rainy weather. If done in a dry time, the plants will not succeed well. The ground should be fully exposed, not incumbered with trees, or near any kind of shade whatever; for these plants never form good heads in such situations, but start to seed immediately.

Dig the ground neatly, and rake the surface smooth; then dibble in the plants in rows, ten or twelve inches asunder, and the same distance from one another in the rows.

Such as are intended to remain for heading where sown, should now be thinned to about ten inches distance every way; and those growing among other crops should not be permitted to stand nearer to each other than three feet.

GOOSEBERRIES.

Take care that no grass springs up around them, and let their branches be supported with forked sticks, that the air may have free circulation beneath them; or the fruit on those limbs will be insipid and good for nothing.

POTATOES

should now be ploughed, and as they advance in growth, the hills should be enlarged, by drawing the earth up around them with the broad hoe.

I am, &c.

P. AGRICOLA.

JULY.

My Dear Son,

Your garden does not, like your farm, require unremitting labour and attention. At this season, the business of the latter is every day becoming more and more pressing, while that of the former is almost finished, and out of the way. The farm, for some time to come, will need the diligent exertions of all the hands you may have at command; while the garden will offer its refreshments to cheer and invigorate the family, all engaged in their several important tasks, peculiar to this period of the year. If you have faithfully attended to my previous directions, you will now, without much additional care, feast upon its bounties.

Your plants are all advancing with great rapidity; mind that they do not crowd each other; destroy the superfluous ones in due season. Better have too few than too many plants.

SWEET CORN

should now be dressed for the last time. The stalks should be set upright, the suckers carefully twisted off, and the hills raised and finished with the large hoe.

MELONS AND CUCUMBERS

should now be kept very clean, and the spaces between the hills must be carefully hoed in dry weather; move the vines with care, train them in a proper direction, and stop the ends of those which appear over rampant. Frequently draw fine dirt about their stems, and you will have no use for the watering pot. These plants, to an unskilful observer, often seem to want rain, when in fact all they require is *stirring and pulverizing the mould around them.*

If you expect a numerous production of good fruit, you must anticipate their necessities; for let it be remembered they will bear no neglect. In the "sluggard's garden," the delicious cucumber, and rich flavoured melon are never to be found. Their sweets are reserved exclusively for those who nurse their infancy; and their bounties are in exact proportion to the skill and attention of the gardener.

> "Discharge but these kind offices, (and who
> "Would spare, that loves them, offices like these)
> "Well they reward the toil."

CELERY.

"The plants that have arrived to a sufficient size, should now be finally planted out into trenches.

" Choose for this purpose a piece of rich ground, in an open exposure; mark out the trenches by line, ten or twelve inches wide, and allow the space of three feet between trench and trench, which will be sufficient for the early plantation.

" Dig each trench a moderate spade deep, laying the dug out earth equally on each side between the trenches. Lay three inches deep of very rotten dung in the bottom of each trench; then pare the sides, and dig the dung and parings with an inch or two of the loose mould at bottom, incorporating all well together, and put in the plants.

" Previous to planting, trim the tops of the plants, by cutting off the long straggling leaves, and also the ends of the roots, leaving the former about six inches long, and the latter two.

" Let them be planted with a dibble, in single rows along the middle of each trench, allowing the distance of four or five inches between plant and plant. As soon as planted, give them a plentiful watering, and let them be shaded until they strike root and begin to grow.

" Small sticks may be placed across the trenches, and on these, boards or pine planks laid lengthwise, or pine or cedar boughs may be laid over the plants, which are to be taken off as soon as they begin to grow.

" The plants, when grown to the height of eight or ten inches, should have their first landing. This must be done in a dry day; the earth should be broken small, and laid in gently to both sides of the plants, always taking care to leave the hearts and tops free; repeating it every ten or twelve days, till they are blanched of a sufficient length for use.

" The objects to be attained by this operation are two:—first, to alter the colour of the plant from green to white; and second, to render it more tender, sweet and succulent, by shutting out light and heat, and preventing dryness, which give it an acrid tart, and render its fibres tough and hard, and even woody."

TURNIPS.

Unless your garden contains more than an acre, there will be no room for this plant. The field, for several reasons, is the best place for the growing of turnips. You may occasionally sprinkle some seed upon vacant spaces, or where you have already taken off an early crop, as peas, or magic onions; but you should look to the field for a general supply of this valuable root.

In cultivating the turnip upon old ground, you require the assistance of all those farming implements, which can most effectually mix and pulverize the soil. Upon new land, well burned, if good seed is properly sown and harrowed in, a good crop may be expected without further trouble. But upon old land, however rich, it is far otherwise. To say nothing about their extensive use for culinary purposes, every farmer should raise these roots in abundance, for his stock of cattle and sheep.

The field cultivation of turnips has introduced into Great-Britain an important revolution in the art of husbandry. Before the introduction of this root, it was, they say, impossible to cultivate their light soils successfully, or to devise suitable rotation for cropping them with advantage. It was also a difficult task to support live stock through the winter and spring months ; and as for feeding, and preparing catttle and sheep for market during these inclement seasons, the practice was hardly thought of. The benefit derived from turnip husbandry to the English farmer is therefore very great.

Although the scorching sun of our summers may prevent our deriving as much profit from the cultivation of this plant as the more temperate and moist climate of England furnishes to the agriculturists of that country, yet experience warrants the assertion, that with the same skill and labour which they bestow, we should seldom miss a crop.

Fortunately for us, necessity does not demand that we should ever cultivate the turnip so extensively as they do; for in this country, no good farmer finds it difficult to keep his land free from weeds. Assisted by our arid sun, one or two ploughings never fail to destroy all vegetation. Besides, we can raise grass for our stock in any quantity, and make it into hay with the greatest facility; and in addition to this we have the advantage of Indian corn, a grain peculiarly suited to our wants, and entirely denied to the English farmer. But in their turnip crop they have, perhaps, a full compensation. Their mild and open winters make them more valuable there than they ever can be here.

The turnip flourishes best in a light, sandy loam, but will, with proper treatment, grow well in any dry, arable soil. But where clay predominates, it would be a waste of time to attempt their cultivation.

There are several varieties of this plant, all requiring nearly the same preparation of the ground. The ground intended for turnips should first be deeply ploughed in the autumn, and in that rough state should be left to receive the benefit of the winter's frost. In the spring, when it is sufficiently dry, level the furrows with a heavy harrow, and so let it remain until after corn planting. Then take a dry time and cross-plough. After ten or twelve days, harrow it down again, and spread over the surface a good coat of stable manure; for turnip land cannot be made too rich; in fact the weight of the crop depends in a great measure upon its condition in this respect.

Let the dung be carefully broken and separated into small pieces, that it may afterwards mix intimately with all parts of the soil; then immediately, before it has time to dry with the sun and wind, plough it under, and smooth it down with the roller.

After this, the oftener you can plough, harrow, and roll the ground, so much the better; provided it is always dry when undergoing either of these operations.

The proper season for sowing the flat white or red turnip, is any time in this month after the tenth. When that period has arrived, if the earth is parched with drought, as it frequently is, wait a while for a shower. Then plough again lightly, and directly harrow down the furrows, and sow the seed immediately, broadcast upon the fresh surface; then cover the seed with a light harrow, and finish the process by levelling the surface with a heavy roller.

Rolling is a very important point, and must on no account be neglected; for by this means all the lumps and clods are broken, much of the seed that would otherwise be exposed to birds, &c. will be covered, the surface rendered smooth and compact, and consequently more retentive of moisture, which will very much promote the germination of the seed, and growth of the plants. Besides, rolling the ground is experimentally found to be the most effectual method yet discovered for the preservation of the rising crop from the depredations of the fly.

By rolling the ground, you not only bury up and destroy vast numbers of these little vermin, but you deprive those that remain of the harbour and retreat they would otherwise have, under the small lumps of earth, to which they usually resort for shelter from birds, and such changes of weather as are destructive to them.

Try this method, and you will find it more effectual than soaking the seed in any preparation, or dusting the plants with any composition whatever.

The drill method of raising turnips is the one generally practised in England, and from long experience is found to be much preferable to the other.

The mode of preparing the ground is the same as already described.

As soon after the tenth of this month as the weather will permit, plough, harrow and roll down your land; then with a large plough run a furrow every three feet; then bring on your manure with a cart; take your stand behind it, and fill three or four of these furrows with a shovel, as your team moves slowly on. When this work is sufficiently ahead, run a small plough on each side of the dung, just so as to cover it effectually. Then scatter the seed immediately over the manure along the ridglets. If you do this work with the hand, take care that the seed is spread even along the rows. But if you would raise large quantities of these roots, the turnip drill is a very necessary implement. An iron rake should now be drawn lengthwise on the top of all the ridges, that the seed may be slightly covered, and the work finished by passing the roller the same way over the whole plantation.

If the grasshopper or fly should destroy your young plants, harrow up the ground thoroughly, and sow again, any time before the tenth of August. By this time these maurauders usually disappear, and your crop, for kitchen use, will be better than if planted earlier.

Two pounds of seed will plant an acre. Let this work be done as I have directed, and you will seldom be troubled with the fly, which is the most mischievous enemy you have to fear. But as an additional security, you should sow half as much more seed broadcast over all the ground. The expense of this will be trifling, and the plough and hoe will instantly sweep away all the supernumeraries between the rows, should these escape the flies ; to which, however, they will be principally attracted, for it is always found that these insects prefer turnips growing in poor ground to those in rich.

The *ruta baga*, or Swedish turnip, requires the same method of cultivation, with this difference: the seed should be sown at least a month earlier. Some recommend sowing the seed in beds the latter part of May, like cabbage, and in the month of June transplanting, so as to stand in rows upon the tops of ridges. It is certain this plant will bear removal much better than the flat turnip, and if the expense of transplanting is not counted, it may undoubtedly be considered as the best method.

CABBAGE AND TURNIP SEEDS,

require attention. Cut off the branches that are first ripe, and lay them up, or the wind and birds will destroy the best part of it.

Some other of your early crops will soon be ripe. Let the stalks be pulled up without delay, that they may not look unsightly, or afford shelter for insects. Clean, and prepare the ground to receive such seeds or plants as are wanted in autumn.

CABBAGE, BEANS, &c.

as they advance, should have the earth drawn about their roots. This will greatly refresh them, and prevent injury from the scorching rays of the sun.

ONION SEED

begins to ripen. You should daily examine the state of this crop ; see if the capsules which contain the seed, begin to open, and show the black grains. Every head thus advanced should be cut off without delay, or the wind will scatter the seed, or the birds carry it away, long before the whole is ripe. These heads will still contain considerable moisture, and must be spread upon a cloth, in some dry place. When all are thus collected, and have become sufficiently dry, rub out the seed, separate the coarse chaff with a riddle, and throw the residue into cold water. The good seed will sink directly to the bottom of the vessel. The water should then be gently poured off, with whatever may float upon it. The seed thus proved should be put into a seive, and thoroughly dried, then put away into paper bags, for use.

I am, &c.

P. AGRICOLA.

AUGUST.

MY DEAR SON,

THE analogy between plants and animals, in most parts of their organization, justifies the belief, that the former, like the latter, have their peculiar wants and appetences; and in order to be a successful agriculturist, or gardener, you must make yourself intimately acquainted with every thing relative to the vegetable economy. Their phytology and general structure, are studies of great importance; their peculiar and varied habits, must not be neglected; and to learn their appetences and their loves is not only a curious, but a very useful inquiry. But most of all, it should be your aim to find out the method of supplying your cultivated plants with an abundance of suitable food, at the least possible expense.

These vegetables are organized bodies perfect in the soil, from whence they derive nutrition, and where all their various properties are developed and their numerous species propagated. Plants resemble animals in many respects, and are truly considered as only an inferior grade of animated nature; yet in one particular they differ materially.

All animals with which we are acquainted, have a stomach or alimentary canal, where their food is digested, and prepared for nutrition, before it is absorbed into the circulation and becomes a part of the animal; but vegetables have no such organ. Their food is elaborated for them in the earth, and their roots are so formed as to take it up and transmit it with the sap, through all their system of arteries and veins; like the lacteal vessels in animal bodies, the radical mouths absorb with different degrees of vital energy. As in the animal kingdom, so in the vegetable, some are very strong feeders, and surprisingly voracious, and by means of this faculty, do absolutely starve all other plants in their vicinity. Besides, every vegetable, like every animal, has its peculiar appetence or liking, and is nourished and supported in health by different qualities to be found in the earth.

If you want evidence of this fact, place a young tree where an old one of the same kind has lately stood, and you will invariably find, that it will not thrive; if it lives the first and second year, it will perish soon afterwards, and evidently for want of food. The old tree having exhausted the earth of all nutriment suitable for that kind of tree, and as the roots of the young tree are short, it can draw no supply from a distance, and notwithstanding all the care you may bestow upon it, it dies with hunger. But if the transplanted tree be of a species quite distinct from the old one, it will flourish as well as if none had grown there before.

It would perhaps be a waste of time to examine the various and contradictory theories respecting the food of plants; a subject which will, perhaps, be forever involved in mystery, nor could you derive the smallest benefit from such discussions.

Although you may never be able to ascertain which of the elements contributes most to the food of plants, yet small experience and trifling observation will satisfy you, that if your land is drained of all superfluous moisture, if it is suitably manured, and sufficiently cultivated, the productive powers of the earth will furnish an abundant supply of food for all your vegetable family.

In all your operations, keep these fundamental principles in view, for with one or other of them, every part of rural economy is more or less connected.

BEANS AND PEAS

of an early kind, are now ripe. Whenever any of your plants during the warmth of summer, arrive at maturity, let them be removed as soon as possible, and immediately put the ground into a complete state of summer f low; let every part be turned over with the plough or spade; make it fine, and give it every benefit from the sun and air. At this season weeds are destroyed with the greatest ease, and the earth at the same time rendered fertile by the tillage.

CUCUMBERS

now yield abundance of fruit. Select a few of the fairest for seed, and take off the others as they advance. They should be cut, not pulled off. Every third day the vines should be examined by some careful hand, who should be charged not to tread upon the runners or displace the leaves.

TURNIPS.

It is a great misfortune that the cultivation of this root, upon old ground, should be so little practiced or understood by farmers in general. Their excellence for culinary use is admitted by every one; yet most men are discouraged, and give up all attempts to raise them, as a fruitless waste of time and expense. I have tried (says one) several times, and failed as often; 'My land will not produce turnips,' says another; a third asserts, 'that turnips are good for nothing, unless grown upon new ground.'

Now all these farmers are quite mistaken, and I hope you will convince them of their error by your success.

Turnips can be raised upon any land which would produce Indian corn; but then you must understand their wants, and the nature of those enemies with which you will have to contend. And here experience and observation will furnish the most useful lessons.

"The turnip system," in all its details, requires *practical* knowledge, as much at least, as any other branch of husbandry, and to obtain information from this unerring source, it is not necessary that you should risk much, or go to great expense.

Select a small spot, say only one fourth of an acre, let it be near the dwelling house, that you may have it every day under your eye. If the land is poor, no matter, let it be free from stumps or stones, and make it rich with the treasures of the barn yard, and with tillage, agreeable to my former directions.

In two or three days after the seed is skilfully sown, if the weather is favourable, you will see the plants begin to emerge from the soil. Observe now if the flea pounces upon them, for this is the time when they are in the greatest danger from that hungry insect, which frequently destroys every plant, before the inattentive farmer knows they are out of the ground. If their numbers are great, and you see them briskly hopping from plant to plant, I know of no means in your power to employ, that will prevent their ravage. A seasonable and copious shower will sometimes destroy these vermin, and save your crop. However, if this fortunate occurrence should not happen, and your plants are swept away, wait until the first week in August, then break up your ground anew and sow again as before. By this time you may expect a plentiful rain, which of all things is the most fatal to these insects; and as the nights are lengthening, they have less time to feed, for they make their destructive repast only in the day time. Without strong light they move but little, and seem unable to find the object of their desire. Your plants will thus escape from wounds, and grow rapidly. As soon as the rough leaf is fairly formed, examine the whole plantation, and if in any place, they stand in clusters, pull up and destroy the superfluous plants; then, or soon after, take them row by row, and extirpate every weed that may have sprung up; at the same time thin the plants, sparing the most vigorous, so that all stand eight or ten inches apart.

When these have fixed themselves well in the soil, and the leaves begin to spread over the surface, if your crop was planted in drills, introduce a light one horse plough, and take a slice from each side of the row and throw it from the turnips; after a few days when the weeds have perished, again introduce the plough, and turn the soil towards them. The oftener this operation is repeated, the more thrifty your plants will grow; for frequent stirring the ground is the life of turnips. It not only destroys all weeds that might spring up to starve and impoverish them, but it disturbs and prevents the ravages of slugs and other insects; and by breaking, mixing, and pulverising the soil, the young roots are enabled to spread with ease, and to imbibe and store up abundantly. If your crop was sown broadcast, you must stir the soil and kill the weeds with the hoe; taking care to separate the plants a foot apart, for if they are permitted to stand thicker than this, the tops may be large, standing upright, but the bulbs will be proportionably small.

CELERY.

"Earth up celery, as it advances in growth, but be careful to avoid covering the hearts of the plants; this work should always be done in a dry day. Lay up the stalks neatly, without injuring them, for if bruised they will become mouldy, and be subject to rot."

CURRANT WINE.

A kind and beneficent providence has fitted our soil and climate for the production of all the necessaries, and many of the luxuries of life, and it will be your own fault if you do not enjoy them in abundance. Your orchard should produce the daily beverage upon your table, while the shrubs of your garden supply the friendly treat, or furnish the cordial draught in cases of sickness or debility.

Foreign wines not only drain the pocket, but are invariably hurtful to the health of those who use them. As usually sold by our merchants, they are a base admixture, and should never be allowed a place upon your board; but to currant and gooseberry wine, there is no such objection. It is pure and and pleasant as Madeira, and may be made of the best quality for less than forty cents per gallon.

There are several modes of making currant wine. I will give you three of them.

First, when your currants are fully ripe, let them be picked in fair weather, and with as much expedition as possible. To every gallon of berries add as much cold water, bruise and break them well in the water, then strain out the liquor and measure it with accuracy, and to each gallon put two pound and three fourths of good brown sugar, stir and carefully unite the whole together; then fill your cask nearly full, and put a piece of leather with a small weight upon it, over the bung. When the wine has settled and ceased to ferment, close the cask as tight as possible.

The following recipe is preferred by some persons.

Collect your currants as above, mash them effectually, and strain the juice through a woollen cloth; measure it, and to every gallon of pure currant juice, add two gallons of cold water, then to every gallon of this mixture immediately put three pounds of good brown sugar; and when the whole is well united, fill up the cask, but it should not be so full as to work over; this would injure the liquor. Then cover the bung, and close the cask as in the former receipt. If your cask is new and strong, the wine may remain upon the lees, and be drawn when wanted. But it is usually thought best, early in the spring to draw it carefully from the sediment, and put it into bottles. These should be well corked, and laid away upon their sides, in some cool and secure part of the cellar. Here it should rest until wanted, and like all other wines, will be found to improve with age. Remember every part of this process must be done with neatness. The cask must be good and clean, or the flavour of your liquor will be spoiled. If you purpose to make thirty gallons agreeable to this recipe, you will require eight gallons of juice, sixteen of water, and seventy-two pounds of sugar.

A large proportion of the wine used in Great Britain, is what they call made wine. By the following recipe they make a liquwhich is fashionable and much relished, and is retailed by the name of English Champaign.

To three gallons of water, put nine pounds of brown sugar of the best quality; boil the water and sugar half an hour, skim it clean, then take a gallon of ripe currants, clean picked, but not bruised; pour the liquor boiling hot upon them; and when cold, add half a pint of yeast; let it ferment two days, then strain it through flannel and put it away into a clean cask, with half an ounce of ichthy ocolla shreded fine; when the fermentation subsides, cork it close for a month, then decant it from the lees and put it into bottles, and in every bottle put a small lump of refined sugar. Lay them carefully away, and in a year they will be found to contain an excellent wine, and of a beautiful colour.

Gooseberries flourish extremely well in this state. The fruit is fine, and you may with the utmost facility have any quantity you please. By the following recipe you will make an excellent white wine.

GOOSEBERRY WINE.

"Take gooseberries when they are just beginning to turn ripe, bruise them well, but not so as to break their seeds, pour to every eight pounds of pulp a gallon of water, and let them stand in the vessel covered, in a cool place, twenty-four hours, then put them into a strong canvass or hair bag, press out all the juice that will run from them, and to every quart of it put twelve ounces of loaf sugar, stirring it about till it be melted; then put it up in a well seasoned cask, and set it in a cool place; when it has purged and settled about twenty or thirty days, fill the vessel full, and bung it down close."

"When it is well worked and settled, draw it off into bottles, and keep them in a cool place."

N. B. Currants or gooseberries should be pressed out if possible, the same day they are gathered. This will add much to the fineness, and give flavour to the wine. In picking the berries, take none that lie upon the ground, or that have grown in the shade and become sour.

I am, &c.

P. AGRICOLA.

SEPTEMBER.

My Dear Son,

That animals and vegetables possess many properties in common, we have already noticed. The living principle is a phenomenon evident in both; both have the power of re-production; both have the energy to heal their own wounds; both are greatly influenced by habit, and hence both are enabled to accommodate themselves to a certain extent, to the climate or soil in which they are placed. Contractibility, elasticity, and irritability, are also faculties which they possess in common. No characteristic line can therefore be drawn between these two great classes of organized matter; for the transition of the one to the other, is to us quite imperceptible.

Animated nature is divided into two distinct classes, the viviparous, and oviparous; but the vegetable world, as far as our acquaintance extends, with a very few exceptions, is oviparous, or in other words, they propagate their species through the medium of eggs; and these bear great analogy to the eggs of animals. Those who have best studied the physiology of vegetables, with the assistance of large magnifying glasses, inform us that "soon after the formation of the external membrane, the albumen and vitellus are formed; in some cases both are deposited, in others only one. In the midst of this albuminous matter is the small rudiment of the plant, called the corcle, with which it freely communicates, by means of vessels which support and nourish it. The inner structure of this corcle differs at different stages. At first it consists of a thin glary fluid; afterwards becomes more concrete, regularly organized; and at last displays the rudiments of the radicle, and of the plumule.

"The albumen constitutes the bulk of some seeds, as in grasses, grain, &c. The vitellus is always situated between the albumen and embryo. The sole office of both is to nourish the young plant, until the root is formed."

The perfect seed thus formed, is retained in its proper situation by an umbilical cord, which dries up and disappears when the seed is fully ripe.

The seeds of vegetables are the ultimate production of the plant. In all annuals and biennials, this important work is no sooner finished than the whole plant instantly shows signs of decay, and gradually dies of age.

In the other departments of vegetable life, when the seeds are completely formed, the enlargement or growth of the plant is ended for that season; a state of exhaustion is evident, and a complete torpor ensues, which the coming spring, charged with new life and powers, alone can remove.

All practical gardeners should know, and constantly bear in mind the nature and peculiar habits of seeds. Some are much longer than others before they germinate. As a general rule, new seeds sprout quicker than old ones of the same species. So some seeds retain their vitality much longer than others; some, when suitably dry, and properly laid up, retain their vital principle for many years, as all the gourd family; while others part with it very soon, as onions, parsnips, &c.

All seeds which are liable to lose their germinating power before they are wanted for use, should be mixed with a due proportion of dry sugar. This, repeated experiment has proved, will long preserve their vitality.

If the seeds of plants are in so many particulars like bird's eggs, you will see the necessity and importance of always selecting the best and most perfect of their kind for seeding. As you would certainly choose the finest animals for breeders, so let your vegetable stock spring from the soundest and best seed; for it is not sufficient that your seeds *come up*; they should *come* strong and vigorous, if you would have them grow with luxuriance.

Every year endeavour to improve your seed. Most of our cultivated plants are found to degenerate, notwithstanding all the care we can bestow upon them, unless their seeds are frequently changed. This fact has been long noticed, although the true cause may not yet be known.

And we are also unable to say from what part of the world they should be brought, to produce the greatest crop. It is, however, generally found, that in all cases where you desire a great weight of roots or foliage, as beets, potatoes, cabbage, lettuce, &c. it is best to procure seed from a southerly climate.

Whenever you use seed brought from a distance, let it be planted separate from any other of the kind, and note down all the particulars relative to it, that you may learn whether it is truly an improvement or otherwise. Much care is also requisite to prevent a deterioration of your seeds. Whenever you would raise seed from plants of which there are different species, do not set them within fifty feet of each other.

This precaution is particularly necessary, whenever you would raise seed from any of the brassica tribe. This family has more branches, or varieties, than almost any other. From the great drum-head cabbage to the humble turnip, there are many grades, all of which have such seminal relation, that if permitted to flower in the neighbourhood of each other, an admixture of pollen, and consequent adulteration, is certain to ensue.

The varieties of the gourd family are also very numerous, and when you intend to preserve the seed of any of them in purity, or aim at improvement, plant them in separate and distant sections of the garden. In particular, the cucumber and melon should never grow together. They have each their peculiar excellence, which is materially injured by an union. So all the varieties of pumpkins and squashes are spoiled by an intermarriage.

And in like manner, all the kinds of Indian corn will mix their qualities, if they grow within four or five rods of each other. Your sweet corn will be quite ruined, if only a few stalks of the hard kind are permitted to grow near it, and what is singular, the sweet corn alone will suffer from the adulteration, the grains of which immediately lose their soft, rich and saccharine quality, while the other appears not in the least affected. Your seed corn should always be gathered before the frost. Search for such stalks as bear two or more ears, and take the largest of them for seed. Let them immediately be trussed up, and suspended in some dry place, secure from rats and mice. Here it should remain until wanted for use. When shelled from the cob, reject the grains that grow upon each end. These hints should never be neglected; nor should you plant seed corn that is more than a year old, if new can be obtained.

ONIONS

grow but little after the tops shrivel, and fall spontaneously, and may then be pulled up and laid on the ground, to dry and harden. If the weather should prove moist, they must be turned, or they will strike new roots and grow. When sufficiently dry, cut off the tops, carry them in, and spread them over the floor. Here let them remain, until the commencement of cold weather; then put them into a box or cask, with alternate layers of dry chaff, or fine straw, and set them in a place where they will not freeze. A little frost, however, will not essentially injure them; but it is better to keep them in a temperature a little above the freezing point.

Those which have thick necks, and the bulbous parts small, and are commonly called scullions, may as well be left in the ground during the winter. They will stand the frost, and the next spring will grow in their places to be good onions; or they may be taken up and set in a bed made for that purpose. At all events, they are good for nothing without a second year's growth.

BROOM CORN

should be attended to before the arrival of frost. Cut off the brush, and hetchel or scrape off the seed. Take a few of the brightest and heaviest heads, and hang them securely up for seed. Then let the stalks be pulled up by the roots, and carried from the garden, and the ground thrown into ridges, to remain through winter.

HOPS

should now be carefully gathered, before the autumnal storms, or frost. When their colour begins to change, and they emit a fragrant smell, pick them without delay. The seed, or flower, as it is generally called, is the strongest and most valuable part. The hop, therefore, should be collected so early that these will not fall, and be lost in picking. They should be thoroughly dried, under cover, and then packed firmly away in a bag or cask.

When hops are raised in large quantities, the best way to dry them is on kilns, erected for that purpose ; but you will easily dry what your family may want upon a clean floor.

Move the vines from the garden, and set up the poles securely for another year.

CELERY

must be earthed up, as it advances in height, observing to do it in dry weather, and be careful not to bury it above the hearts of the plants; for that would stop its growing, and cause it to rot.

"*Ill weeds grow apace,*"

at this season, and should now be destroyed, root and branch, before the autumnal rains; for you will find it difficult and useless to attempt it afterwards. As your summer crops ripen, clear off the ground, hoe deep, and level every part. This is all the summer-fallowing your garden requires, and this must never be denied.

ASPARAGUS

beds should now be cleared off, and covered with dung, and some earth, taken from the alley, spread over the whole. By this means the crowns of the asparagus will be protected from severe frost, and early in the spring, will rise with renewed vigour.

I am, &c.

P. AGRICOLA.

OCTOBER.

MY DEAR SON,

THE judicious farmer will always so cultivate his land as to improve its productive powers. He will manure, plough and sow, with that object in view. No immediate profit will ever tempt him to a practice injurious to the fertility of his soil.

At certain periods, and under certain circumstances, he may very properly have recourse to the expensive method of summer-fallowing. The stubborn nature of some soils imperiously demands it. Wherever the roots of quick-grass abound, there is no means more certain to destroy them. In the spring, our lands are never sufficiently dry to be materially benefited by ploughing; indeed it not unfrequently happens, that in order to procure in season a seed bed for our spring crops, we are compelled with the plough and harrow to injure the productive qualities of clay or loamy soils. In this country, where land is plenty and cheap, and labour comparatively high, it may be good farming to summer-fallow such land every sixth or seventh year, and not oftener, if you will observe a proper rotation of crops. In this you should be directed by local circumstances, and the market demand for the several kinds of grain.

Free the surface of your land from every impediment to good tillage, and let your crops succeed each other in the following order :—Beginning with a complete summer-fallow, to be sown to wheat or rye ; as soon after harvest as possible, plough in the stubble ; in the spring of the third year, cross-plough, and plant to Indian corn ; this must be succeeded the fourth year, with barley or oats, and stocked down with clover, 15lbs. to the acre. The grass may be mowed, or pastured two or three years, and again have recourse to summer-fallow.

A practice of this kind will improve your land without the expense of manure ; but *it* would be well if you could afford a coat of stable manure, once, at least, in this course ; and let that be put on just previous to the corn or barley, and immediately covered with the furrow.

In cultivating your garden, keep the same principles in view ; but here a naked summer-fallow is never necessary. The crops in your garden are taken off at so many different periods, and some of them so early in the season, that opportunity is always gained for working the ground in the completest manner.

It is a mistaken idea, that land ever requires absolute rest. Let the tillage be well performed; let its productions be judiciously varied; let suitable manure be properly applied; and your soil will every year improve.

Good tillage is indispensable, upon farm or garden; and here you will have exercise for observation and judgment. The same depth and number of ploughings which would be proper upon some land, you will find quite insufficient, or improper upon others. All clay or loamy soils are greatly benefited by fall ploughing. The winter frost will more effectually pulverize such land than all the labour you can bestow; besides, there is no practice more destructive of grub-worms, nor can land be made fit for spring grain in any other way so cheap.

A sandy soil may be wrought in a different manner. Here spring ploughing can be performed without injury, nor does this kind of soil require the aid of frost to make it fine and light. A skilful agriculturist is fully satisfied of these truths, and directs his business accordingly.

POTATOES, BEETS, AND CARROTS,

should now be raised from the ground.—Choose a dry time for this business, and let the roots intended for family consumption, be stored away with neatness. A proportion for winter use, should be put into the cellar, and completely covered with dry sand. This will greatly protect them from frost, if the cellar should be cold, and retard their vegetating, if warm. Besides, all these roots lose much of their excellence, if exposed only a few days to the air, in any temperature.

The residue of your crop may be buried upon the surface of a dry spot of ground; pile them with regularity, and give the whole on every side, a roof-like slope; then cover this heap with dry sand, an inch or two deep, over which lay a good coat of drawn straw, up and down, as if thatching a house, in order to carry off the water; then dig a trench around the heap, and cover the straw with the earth so dug up, in a depth sufficient to secure the roots from frost.

N. B. Better make this covering unnecessarily deep, than one inch too shallow; for the least frost will entirely spoil this kind of sauce for table use.

PARSNIPS.

"In the management, or rather neglect of one of our finest vegetables, than which our gardens produce no richer, we see the tyranny of custom.

"From time immemorial, our fathers in the country have raised the parsnip only as a *rarity*, to be sought for a few days in the spring. And few farmers think it possible to deviate from this ancient rule, and by digging that vegetable in the fall, provide their tables with a very pleasant and useful winter variety. By taking it up in the fall, we not only gain a long use of the plant, but we have it in greater perfection; for rarely can it be taken up in the spring, before it has sprouted, and the inside of it become ligneous. Indeed all roots should be dug in the fall, and if packed in a box, with earth from the beds from which they were taken, that the same moisture may be preserved, they can be kept until quite the beginning of summer, possessing all their richness of juice, and nutritious qualities."

SEED CUCUMBERS

should be picked from the vines directly after the first frost. Lay them in the sun a few days, then cut them open, and scrape out their contents into a pail; there let them remain for a week or more, until the surrounding pulp ferments and rots, that it may easily be separated from the seeds; then put water into the pail, and stir it well about. If this is repeated two or three times, the seeds will settle to the bottom, and become perfectly clean. Then spread them upon a seive, and expose them to the sun until quite dry, when they should be put into paper bags, labelled with the year, and securely laid by.

Cucumber seed will keep good a long time; but that of four or five years old is generally preferred, as producing less vigorous, but more fertile plants.

COMPOST MANURE.

The skilful gardener is always distinguished by the preparation and application of his manure. He never carts out this powerful substance, and throws it at random about his garden ; for he knows full well, that instead of a blessing, in the hands of the ignorant, it frequently becomes a misfortune, and the immediate parent of sterility.

Your various plants will not all require the same kind and quantity of manure. Stable manure, in its recent state, for potatoes, turnips, &c. is as good, if not better than any other. But for a large proportion of garden vegetables, the first summer, it will do more hurt than benefit. For these, you should annually make ready a composition, and apply it when and where it may be wanted. Now, for this purpose, clean out your hog-sty and hen-roost, and every other depository of animal excrements. If these do not furnish a supply, the barn-yard must contribute the deficiency. With this, when carted out, mix an equal quantity of alluvial earth, or turf-parings, taken from an old pasture, or highway, and in some convenient spot in the garden, make a heap three feet high, four feet wide, and as long as you please. Upon every load of this mixture, spread a bushel or two of lime, or house ashes.

Let the top of this pile be flat, or a little dishing, that the rain may wet it through, an to prevent loss by evaporation, cover the whole a few inches deep with mould from the garden.

From a compost of this kind, most of your tender plants will derive an early supply of food, and start with strong appetites and vigorous habits.

For cucumbers and melons, however, the following is to be preferred:

Take rotten cow-dung, or the remains of old hot-beds, one part; coarse sand, two parts; and new vegetable mould, from decayed tree leaves, three parts. This should be prepared at least a year before it is used, and like other composts, be frequently turned over, and thoroughly mixed.

If your soil and tillage are good, and the succession of your crops judicious, a small dressing every year from heaps like these, will accomplish much, and render your plants strong and healthy throughout the season. But when large quantities of manure of any kind are given at once, the drought and heat of our summers frequently make it destructive to your favorite nurslings. Their short and feeble roots can find no moisture; of course the whole plant droops and sickens in the sun, and is thus absolutely starved in the midst of plenty.

I am, &c.

P. AGRICOLA

NOVEMBER.

My Dear Son,

In the course of the past season, I have several times drawn your attention to the great analogy between plants and animals, and now, upon the approach of winter, you may see them alike preparing for that dreary period of their existence. Without this economy, a large proportion of the vegetable race, which here flourishes annually with so much utility and beauty, must inevitably perish, never to re-bloom. All our numerous and charming catalogue of biennials and perennials, without this faculty, must fall lifeless at the touch of frost. But such is the provident law of nature, that this hybernation of plants should be considered as nothing more than their annual sleep. Unable successfully to contend with the frigid blasts of winter, they prudently retire, like the dormouse, house-fly, &c. and in a torpid security, acquire new exertability, indispensable for their further progress towards perfection, when the returning warmth of spring shall awaken their dormant energies. Most of these plants have their winter lodge in their roots, which are buried in the soil, where they find th necessary food in the warm seasons, and their necessary protection in the cold. Into these reservoirs, some plants lay up or accumulate largely, as the onion, potatoe, &c. And the turnip is a remarkable instance of this kind. This plant is the production of a seed which will not weigh the fortieth part of a grain; yet, in the short space of one hundred days after it begins to vegetate, it very frequently stores away in the root alone, more than ten pounds of a pleasant and nutritious food.

Deciduous shrubs and trees hybernate in their buds, and evergreens by a renovation of their foliage; and this is to them, what moulting is to birds.

Nor is this preparation delayed until the approach of necessity. Soon after the autumnal equinox, while all is yet mild and serene, one vegetable tribe after another, as if conscious of the coming storm, retires, and here, in nature's ark, finds refuge. See—your rich and wide-spreading asparagus has lost its verdure—your luxuriant rhubarb has withered and fallen to the ground—and the sober gooseberry, which awakes so early in the spring, has long since covered the ground with leaves, and retired to rest.

And have you, my son, made equal preparation for the coming winter? Who would not blush to be outdone by vegetable instinct!

In this month there is but little to be done in the farmers garden, but that little can on no account be dispensed with.

CABBAGE.

The great value of this esculent will amply recompense every care bestowed upon it.

The broccoli and Savoys may yet remain undisturbed in their beds, and will be found excellent if drawn any time before new-year. Indeed, they improve, until the cold becomes very severe, and if covered, as they sometimes are, with early snow, will remain unhurt throughout the winter. But the weather will soon destroy your large drum-heads and sugar-loaves, and if you would preserve them for spring use, they must be skilfully laid away. It will not be sufficient that they are secured from frost; in a place warm and dry, they will shrivel, perish, and become good for nothing, and if buried deep with earth, they mould and rot.

From the trial of various methods, and the experience of many years, I am convinced that the mode recommended by Mr. M'Mahan is the best yet devised. He says—

"Immediately previous to the setting in of hard frost, take up your cabbage, observing to do it in a dry day; turn their tops downwards, and let them remain so for a few hours to drain off any water that may be lodged between the leaves. Then make choice of a ridge of dry earth, in a well sheltered, warm exposure, and plant them down to their heads therein, close to one another. Immediately erect over them a low temporary shed, of any kind that will keep them perfectly free from wet, which is to be open at both ends, to admit a current of air in mild weather. These ends are to be closed with straw, when the weather is very severe. In this situation your cabbage will keep in a high state of preservation till spring; for being kept perfectly free from wet, as well as from the action of the sun, the frost will have little or no effect upon them. In such a place, the heads may be cut off as wanted, and if frozen, soak them in cold water a few hours previous to their being cooked, which dissolves the frost, and extracts any disagreeable taste occasioned thereby."

TURNIPS AND PARSNIPS

should now be raised from the ground. Cut off their tops, and expose the roots for a few hours, till sufficiently dry. On the surface of a dry spot of ground, well defended from the northwest wind, lay a stratum of sand, two inches thick, and on this a layer of roots, of either sort, covering them with another layer of sand, (the drier the better) and so continue till all are laid in, giving the whole, on every side, a roof like slope. Then cover the heap all over with sand, over which place a good coat of rye straw, in order to carry off the wet, and cover the straw with earth sufficiently to preserve the roots from frost. An opening may be made on the south side of this heap, and completely covered with straw, so as to have access to the roots at all times, when wanted.

In the same manner all these roots may be preserved in a cellar, but there they are more liable to grow, and become stringey earlier in the spring.

Remember sand is preferable to common earth for the preservation of all roots. You should be provided with a sufficient quantity laid up under cover, that it may be ready and dry for use.

CELERY,

in the early part of this month, should be earthed up to within six inches of the tops of the plants, and on the approach of hard frost, additionally earthed to the very extremity of their leaves. Then lay a covering of dry sandy earth on the top of the bed, the whole length, so as to give it a rounding. On this, place a coat of dry straw, to cast off the wet, and of a sufficient thickness to resist the frost. After this, cut a trench around the bed, to carry off and prevent the lodgement of water. Here you can have access to your celery, and it will continue in a high state of preservation during the winter; provided the plants are perfectly dry when this work is done.

GOOSEBERRIES

may be planted any time before the ground is frozen. The best time to plant them out finally is when they have had one or two years' growth from cuttings; for old bushes never bear large fruit after being transplanted.

I am, &c

P. AGRICOLA.

DECEMBER.

My Dear Son,

With the year, my communications to you upon the subject of horticulture are drawing to a close.

This number will complete all that I purpose to say upon that subject, and it is certainly not a subject of minor importance, either as it respects your interest, or rational amusement; for when pursued in the manner I have inculcated, it will never fail to contribute its full share towards the happiness and prosperity of the farmer.

Here let me caution you against despondency, although you may not succeed in all your attempts in the garden. Various causes may conspire, as upon the farm, to produce frequent failures. Over some of these, man has no controul, but the skilful and provident gardener will never want an abundant supply of good vegetables for every season of the year. He plants a great variety, of course has always many things that flourish, let the weather be as it may.

But you will soon find that a large proportion of your failures have originated from the want of skill or attention, consequently might be entirely avoided by observing the lessons of experience.

At your age, I had no other instructor; was frequently disappointed, and made many mistakes, which I am in hope these letters will enable you to avoid.

And that nothing here may be wanting or amiss, let us attentively review what I have already compiled for your use, and make such amendments and additions as further reflections may suggest.

JANUARY.

SOIL AND SITUATION FOR A KITCHEN-GARDEN.—Although labour and skill may overcome every disadvantage of soil, yet in some cases, it may take a number of years, and be quite an expensive operation; therefore, if in your power, choose a situation where the mould is naturally of a dark chesnut colour, which does not adhere firmly, but is short, moderately light, breaking easily into small pieces, without crusting in dry weather, or turning to mortar when wet, and when broke up with the plough or spade, emitting a fragrant and agreeable smell.

It is desirable to have soils of different qualities in the garden. The one most generally wanted is that in which vegetable earth predominates. For some plants, however, a sandy soil is best; but as it is probable that you will not be so fortunate as to find both these qualities in the spot selected for your garden, you must without delay, endeavor to remedy every natural defect, and bring the soil as soon, and as near as possible to perfection. This you may very certainly accomplish, by the judicious application of manures, and frequent *acration* of the soil.

By manures I mean any substance which, added to, or mixed with the soil, renders it more productive of strong and healthy vegetables. Some soils abound in alumin or clay, and of course are too retentive of moisture, and too firm and adhesive to permit the tender roots of plants to enter. This defect you may convert into a blessing, by the admixture of sand and litter from the stable. This union will form a loam, the best of all soils for the greatest part of garden vegetables.

In some soils, silex or sand predominates, and whatever moisture it may receive is not retained a sufficient time to benefit the growing vegetable. Here you must add argillaceous marls or earth, with the scouring of ditches, and the dung of neat cattle.

Besides this, nothing contributes more to meliorate the soil of a garden, than exposing it as often as possible to the influence of the air and sun. It is a good rule, therefore, that garden ground, when not in crop, should regularly be dug *rough*, or if possible, be *ridged up*, and left in that state to the influence of the atmosphere; for when the ground is sufficiently dry, the oftener a new surface is exposed, the better.

For a very great number of plants, an excellent soil is to be found in the turf of highways, or old pastures, and the earth which adheres to the turf to the depth of four or five inches, mixed with a portion of cow or horse dung in a rotten state, laid together in a heap, for at least a year, and frequently turned over. It is now an established fact in practical gardening, that for the greater part of culinary plants, and for all fruit trees, composts or compound manures are far preferable to simple dungs, and that till the latter be completely rotted, they should not in any case be suffered to touch the roots of the plants. Even composts should not be too rich. Cabbage, especially, and trees of all kinds, are very frequently injured by the injudicious and excessive use of manure.

The English gardeners recommend, for cold clayey land, a compost made up in the following proportion: three parts of light mould; one part rotten stable dung; one part sharp sand; and one part old ashes, with a small proportion of hog or sheep dung. These several ingredients to be intimately blended, and several times turned over, the season before they are used.

For a light sandy soil, the following are the ingredients and proportions: to two parts of the natural soil add three parts of pond earth, or the scouring of ditches, and three of strong loamy earth; one part of clay, or rather clay marl, if it can be got, and two parts of stable or cow-house dung.

In some seasons, and to some plants, vegetable matter, in its recent and organized state, may be employed as a manure with more advantage than when it has been decomposed.

When there is a sufficient degree of moisture, and the weather is warm, the putrefactive fermentation goes on beneath the soil, and the gasseous particles escaping, are imbibed by the roots, and stimulate the plants to a rapid growth. Potatoes and turnips evince the truth of these remarks, when the summer is not unusually dry.

FEBRUARY.

GARDEN SEEDS.—I have said that you ought to raise your own garden seeds. This, however, should be understood with the express condition, that your garden contains at least an acre. With less room, you cannot ripen the numerous varieties of seed, without danger of adulteration. The vegetable kingdom in all its departments, contains so many affinities, which, if permitted to bloom in the neighbourhood of each other, never fail to mix their pollen, and become degenerate.

If you have not sufficient space to guard against this misfortune, better buy what you may want, of some honest and skilful seedsman. Besides, you will sometimes reap considerable benefit from planting seeds that grew upon soils dissimilar to your own.

Every variety of the gourd and brassica families are extremely liable to be destroyed by insects. Remember this, and lay in a quantity of seed, proportioned *to their* wants, as well as your own. Without this precaution, you will frequently be disappointed, and suffer irreparable loss.

MARCH.

POULTRY.—If your garden is located in the vicinity of the barn-yard, you may reasonably fear that the dung-hill fowls will be troublesome. In a large garden, however, they are far less injurious than in a small one ; indeed they are often materially useful, for the purpose of protecting our plants from the depredations of insects, which so frequently render abortive the utmost skill of the gardener. If hens, with their chickens, are quietly permitted to roam at large about the garden, they will greatly assist in destroying these mischievous vermin, and in this way make full atonement for any little disorder which they may occasion. But then you must take care *never to keep old hens.* No consideration should tempt you to permit a single domestic fowl to live more than one winter. Yearling hens are best on every account; they are more prolific, and much less injurious to the farmer. There is also in this respect, great difference in the variety or kind of fowls. The smaller the breed, the more they are disposed to hunt the surface of the earth for insects, their favourite food; while the larger species employ their strength in digging up the soil, and seeking their prey below the surface.

The fruit of your shrubbery will, however, be sought after by every kind of domestic fowl, and unless you exclude them from that part of the garden, they will most certainly pick for themselves those delicious morsels which hang tempting within their reach.

Hot-Bed.—Although you may grow an abundance of fine vegetables without the aid of hot-beds, yet it is certain you may have them earlier, and some of them cheaper, in this way, than in the open ground. I would therefore advise you to construct a small hot-bed, in which to sow the seeds of lettuce, cabbage, &c. A bed amply sufficient for all your purposes can be made with trifling expense, in the following manner:

Near the south side of a wall or building, dig a pit, (if the ground be dry) three feet deep, four feet wide, and ten feet long. Let the sides be masoned up, and the wall raised a foot above the surface of the ground, and if the top is defended with a plank, it will last many years.

Soon after the equinox, or when the frost is generally out of the ground, fill this pit with new dung from the horse-stable, in which there should be part of the straw or litter commonly used in the stable. Stir every part of it with the fork, and lay it smooth and even. Frequently, or every time a load is put in, tread it down firmly, particularly around the edges, until the pit is filled to within five or six inches of the top. Then cover the bed with the best of garden mould, sufficient to fill the pit, and make it a little crowning.

Here sow your sallad, radish, and cabbage seed promiscuously. They will be up in a few days, and when fit for use, may be drawn without injury to each other.

If weeds intrude, take care that they are removed in time.

If the weather proves dry, sprinkle over the whole a pail-full of water, warmed in the sun, every evening.

If there should happen some nights when you fear a hard frost, cover with boards, which remove in the morning.

From this bed you may transplant lettuce, which will head finely, without running to seed until August.

As the internal heat of your bed diminishes, the warmth of the sun will increase, and the plants will flourish with luxuriance. By the middle of June you will draw, or remove them all. Then work over the top of the bed, make it fine, and plant it to cucumbers. With this management you may make this spot produce four good crops in one season.

APRIL.

THE BLACKBERRY and RASPBERRY are found growing wild about our fields, and sometimes they creep into the "sluggard's garden," and drive him from one half of it. Yet this should not prevent you from bringing them into yours, where suitable cultivation will greatly enlarge their fruit, and augment their bounties. In forming a plantation for these shrubs, let the ground be first well wrought and levelled down, then cover the whole with sand, four inches deep. This will enable you ever after to keep down the weeds and other intruders with ease; for it will not be necessary here annually to dig up and mix the soil, as in the gooseberry plantation.

MAY.

STONE FRUIT TREES.—In this month you should frequently examine the branches of your plum and cherry trees. See if a green fungus begins to form upon any part of them. These knobs are the birth-place of insects, which, as the weather becomes warm, will grow rapidly, and in a few weeks gnaw their way out. In this state they will do infinite mischief among these trees, by puncturing, with their pointed rostra, the remaining branches.

Every one of these knots should be cut off as soon as discovered, before they exhaust the tree by their irritation, before a diseased habit of throwing out this fungus matter is formed, and before the insect arrives at maturity, so as to propagate its species.

If they appear upon branches that may be removed without material injury to the parent tree, cut them off without delay, and with a brush cover the wounds with thick paint.

If they appear, as they sometimes do, upon the leading and important branches, *now* is the only time to save those branches, and the tree itself, from inevitable destruction. Immediately take a sharp knife, or what is better, a sharp gouge, and remove every vestige of the evil, and if you spread the wounded part with paint, so as to exclude the external air, it will directly heal, like any other injury.

At this season you should also examine your peach and plum trees, to see if they are not growing with too much luxuriance, and beginning to form too many branches.

These trees, you will bear in mind, produce their fruit upon the young wood of the preceding year, and should be so pruned as to cause them to produce new shoots annually. This may now be done by pinching off the extremities of the most luxuriant shoots, and stopping the neighbouring branches.

The shoots of this month will have time to ripen before autumn, while those that are produced late in June will be crude and pithy, and although they may sometimes produce a few blossoms, yet those will rarely bring fruit. It will, therefore well pay the expense to go over all your peach and plum trees two or three times, before the solstice, and rub off carefully all superabundant and irregular shoots. This done, you will have no occasion for so much cutting as is often practised on these trees, to their great injury; for their wood is generally soft and tender, and when wounded, a gum oozes out between the bark and wood, which prevents their healing as soon as many other trees, and the rain water getting into the wounded parts often causes them to canker and rot. This mischief, so certainly fatal to the tree, may be entirely avoided by the gentle. easy method of pinching and rubbing off the superfluous buds in the spring season, which never wounds or injures the tree.

A gardener should always bear in mind that he is to act as the handmaid of nature, and in all his operations carefully aid and assist in bringing her productions to maturity.

JUNE.

INOCULATION.—I forgot to instruct you in the art of budding, or inoculating, as it is sometimes called. By this operation all the varieties of stone-fruit are more easily propagated than by grafting. The process is very simple, and generally attended with success.

Stocks for budding upon, are raised from the seeds or stones of any of this kind of fruit. The most vigorous and strong growing kinds are the best.

When these stocks are two or three years old, they are large enough for this operation. None but those which are smooth and healthy should be worked; for if the stock is knotty or full of canker, all the labor and art you may bestow upon it, will be entirely thrown away; for the future tree will inevitably partake of the disease.

Although you may make buds from the plum or cherry, grow upon the peach or apricot stocks, and *vice versa*, yet the trees will never be durable. After a few years the irregularity of their growth causes them to perish, and it is seldom they bear fruit.

The proper time for budding is soon after the summer solstice, according to the state of the season, and the particular kind of trees, which may always be known by trying the buds, whether they will come off freely from the wood. Observe also, if the buds begin to form at the ends of the shoots; for then the spring growth is finished, and inoculation should be done without delay.

This operation should be performed in the after part of the day, or in cloudy weather, for the great power of the mid-day sun is apt to dry the cuttings and buds, and prevent the union that might otherways be expected; and for the same reason it is thought best to make the incision on the north side of the stocks.

The cuttings should not be taken off the trees until they are wanted for use; and if you are compelled to bring them from a distance, take a basket and spread the bottom with fresh cut grass, upon this lay your cuttings immediately after they are severed from the parent stocks, and cover them lightly with grass or leaves.

A sharp penknife is the only instrument wanted for this operation; and if you are provided with some bass strings or soft woollen yarn, proceed as follows:

"Fix upon a smooth part on the side of the stock, at whatever height you intend to bud it, with your knife make a horizontal cut across the bark of the stock, quite through to the firm wood, then from the middle of this cut, make a slit downwards perpendicularly, about an inch and a half long, going, also, quite through to the wood, so that the two cuts together may be in the form of the letter T. Then with the point of your knife, raise the bark a little on each side of the perpendicular cut.

"This done, proceed with all expedition, to take off a bud, having immediately previous to the commencement, cut off all the leaves, leaving about an inch of the footstalk to each bud, and holding the cutting in one hand, with the thickest end outward, then enter the knife about half an inch below a bud, cutting nearly half way into the wood of the shoot, continuing it with one clean slanting cut about as much more, above the bud, so deep as to take off part of the wood along with it; directly take out the woody part remaining in the bud, by placing the point of the knife between the bark and wood, at either end, and pull off the wood from the bark, which ought, if in good condition to part freely; then quickly examine the inside, to see if the root of the bud be left, and if there appears a small hole, the rudiments of the young tree is gone with the wood, the bud is rendered useless, and another must be prepared; but if there be no hole, the bud is good, then place the footstalk or back part of the bud between your lips, and carefully separate the bark from the stalk on each side of the perpendicular cut, for the admission of the bud, which directly slip down close between the wood and bark, till the whole is inserted within the eighth of an inch; let this part be cut through into the first transverse incision made in the stock, and the bud will fall neatly into its place, then draw the bud up gently so as to join the upper or cut end of it to the bark of the stock, where it will most generally first unite.

"Let the parts be then bound with a ligature of bass, previously immersed in water to render it pliable and tough, or with woollen yarn, beginning below the bottom of the perpendicular slit, and proceeding upwards close around every part, except over the eye or bud, which is to be carefully preserved, and continue it a little above the horizontal cut, not binding it too tight, but just sufficient to keep the parts close, exclude the air, sun, and wet, and thereby to promote the junction of the stock and bud, finish by making the ligature fast.

"In three weeks or a month after inoculation, you will see which of them have taken, by their fresh and plump appearance. At that time you should loosen the bandages, for if kept on too long they would pinch the stocks, and greatly injure if not destroy the buds. Those that appear shrivelled, black, or decayed, are good for nothing.

"In this dormant state the buds should remain until the spring following, when the stocks are to be headed down that the whole nourishment may go to the inoculations, which will soon begin to advance their first shoots.

"In proceeding to this, cut the heads of the stocks off sloping, behind the inoculated bud, either almost close thereto, or about a hand's breadth above it, which part of the stock remaining above, will serve for tying thereto the first shoot from the bud in summer, to secure it from the wind, but must be cut down close next spring."

JULY.

RHUBARB.—A few of the best stalks only, should be permitted to ripen their seed; for it exhausts the plant, and diminishes the production of foliage, the only part wanted for kitchen use.

As soon as the flowers begin to fall off, cut the whole plant, close to the ground, and remove all the rubbish. Then hoe up every weed, and pulverize the surface. In a few weeks, new leaves will grow, and another crop of foot-stalks be produced, of a quality superior to the first.

I have now brought to a period my instructions for every month in the year. And to avoid mistakes which might arise from the variety of names in common use, shall here annex a catalogue of the plants usually cultivated in our kitchen-gardens, with their botanic names set directly opposite.

Asparagus . . . [improperly called Sparrow-grass.]	Asparagus, or Maratimus officinalis.

Artichoke, garden	Cynara scolymus.
Artichoke, Jerusalem	Helianthus tuberosus.
Bean	Faba.
We cultivate two distinct species of this plant, the	
Horse-bean	Vicia faba.
and the Kidney-bean	Phaseolus vulgaris.
[of each of these there are many varieties.]	
Beet	Beta vulgaris.
[We have five varieties, called by different names, as they differ in colour and shape.]	
Borecole	Brassica fimbriata.
Black-berry	Rubus major.
Cabbage	Brassica capitata.
[Some gardeners enumerate thirteen varieties of this plant, cultivated for culinary use.]	
Carrot	Daucus carota.
Celeri	Apium dulce.
commonly called	
Salary	Celeri Italorum.
Corn, sweet	Zea mays dulce.
Corn, broom	Holcus saccharatus.
Corn, Guinea	Holcus Sorghum.
Cucumber	Cucumi sativus,
Currants, red	Ribes rubrum.
Egg-plant	Solanum melongena.
Garlic	Allium sativum.
Gourd-squash	Cucurbita melopepo.
Gooseberry	Ribes glossularia.
Lettuce, or sallad	Lactuca sativa.

Melon, musk . . .	Cucumis melo.
Melon, water . . .	Cucurbita citrullus.
Mustard, white . .	Sinapis alba.
Onion	Allium cepa.
Onion, magic . . .	Allium canadense.
Parsley	Apium sativum.
Pea	Pisum sativum.
Pepper	Capsicum.
Potatoe	Solanum tuberosum.
Pumpkin	Cucurbita pepo.
Radish	Raphanus sativus.
Radish, horse . . .	Cochlearia armoracia
Rhubarb	Rheum palmatum.
Raspberry	Rubus Idæus.
Salsafy	Tragopogon porrifolium.
Skirret	Sium sisarum.
Sorrel	Rumex acetosa.
Spinach	Spinacia oleracea.
Squash, warted . .	Cucurbita verrucosa.
Turnip	Brassica Rupa.

ERRATA.

Page 9, line 9, read *but*, for *put*.

Page 10, line 12, for *means*, read *manure;* and in the next line obliterate manure.

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